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Educational News and Editorial Comment

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The *School Review* records the death on April 12 of one of the members of its advisory board, Alexander James Inglis. He was born in Middletown, Connecticut, November 24, 1879. He graduated from Wesleyan University in 1902. From 1902 to 1912 he was a high-school teacher and a student in the graduate courses of Columbia University and Teachers College. He completed during this period the work for the Master's degree and for the degree of doctor of philosophy. In 1912 he became professor of education at Rutgers College, and in 1914 he was called to Harvard where he was professor of education at the time of his death.

During the later years of his life his investigations dealt largely with secondary education. In this field he was the author of a volume entitled, *Principles of Secondary Education*. He was the director of the Virginia school survey and during the war served on various educational commissions organized by the general staff of the army. He was the author and editor of a number of volumes on mental tests and other phases of education.

Professor Inglis was an enthusiastic advocate of an enlarged American high school. He was a vigorous and impressive speaker

and writer. In personal relations he commanded the respect and admiration of all who came in contact with him. His associates can bear witness to the generosity with which he gave time to critical discussions of educational plans and policies and to the discrimination and impartiality with which he contributed judgments.

JUDGMENTS OF HIGH-SCHOOL PUPILS ABOUT EDUCATION

Professor C. O. Davis, in his capacity as secretary of the Commission on Secondary Schools of the North Central Association of Colleges and Secondary Schools, made an elaborate study during the academic year 1923–24 of the views of high-school pupils in the territory of the association on various matters. He summarizes the findings of his investigation in the following statements:

1. The American high school is composed of a body of perfectly normal boys and girls, with the same interests, abilities, and natures that characterize any fairly large group of adult citizens.

2. The overwhelming proportion of the pupils are Americans, born of Americans.

3. To secure a college preparation or a well-paying position in business is the dominant motive that leads the pupils to the high school.

4. Approximately 80 per cent of the pupils have pretty definite purposes on entering high school and change their general plans but rarely.

5. The highest ambition of most of the pupils is to develop into all-round, good, sincere, and capable individuals.

6. The best liked features of the school are the educational advantages given, the social life, and athletics.

7. Relatively few dislike the school, and these few distribute their dislikes over a wide range of alleged grievances.

8. The pupils are generally proud of the school spirit and to a lesser extent of the athletic achievements.

9. Where the pupils deplore anything in the school, it is usually the lack of a good spirit.

10. Knowledge of one's subject and possession of character are the two most prized qualities in teachers; failure to explain clearly and lack of discipline are the most condemned weaknesses of teachers.

11. The cause of poor marks is usually lack of study.

12. The hardest subject in the curriculum is mathematics; the easiest, English; the most valuable subject is English, while the least valuable is mathematics.

13. The best marks are secured in the easiest subjects.

14. As a rule, the pupils devote only about forty-five minutes to the preparation of a given lesson assignment and spend about one hour in study at home each night.

15. The pupils want more class discussions and more attention to making ideas clear.

16. The pupils like to be given responsibility and through it to develop "personality."

17. The pupils feel that a spirit of snobbishness is altogether too common in the school.

18. The three leading things that make a boy popular are athletic ability, scholarship, and good appearance; the three things that make a girl popular are good appearance, good sportsmanship, and scholarship.

19. The first quality demanded of a leader is scholarship.

20. Extra-curricular activities are regarded as of great value.

21. The pupils want the school to provide a greater variety of recreational aids.

22. The three things for which the pupils honor the school most are the education given, the character developed, and the friendships made.

23. Few pupils have conspicuous health ailments, but 40 per cent of them neglect or abuse their bodies.

24. Late hours are the chief cause of ill health.

25. Overeating or hasty eating is a common fault of the pupils.

26. The pupils have a sane and simple idea of what constitutes a worthy home.

27. Many pupils regret the fact that the full meaning of life is not made clear to them by the school.

28. The majority of the Juniors think that their life-vocations have been determined and say that their families are chiefly responsible for the choice of vocations.

29. Over 40 per cent of the pupils work for pay after school hours.

30. Religion is a matter of deep concern to 75 per cent of the pupils, and nearly the same proportion are church members and attend church regularly.

31. The pupils believe that their school possesses a high moral tone; the chief moral quality of the pupils is honesty.

32. The pupils think that the most regrettable practice among the boys in the school is smoking; among the girls, the use of cosmetics.

33. The pupils feel that the first outstanding factor tending to develop high moral qualities among the pupils is the teacher.

34. The most invidious and dangerous factor tending to undermine morals in the school is the presence of a few low-minded individuals.

35. A course in morals would be greatly appreciated by the majority of the pupils.

36. On the whole, the pupils consider themselves possessed of a majority of the most important moral qualities.

37. The use of profane language and telling and listening to coarse and vulgar stories are the two besetting evils of the boys.

38. The pupil's mother is the chief influence in keeping him straight, and a few evil companions are the chief influence that leads him astray.

39. Many pupils are worrying about some difficulty.

40. The majority of the pupils are looking clearly and confidently ahead to meeting difficult problems in the future.

41. The pupils refuse to report moral and criminal delinquencies, except under rare conditions.

42. The pupils believe that the most important qualities of the good citizen are patriotism and obedience to law.

43. The pupils think that the school should teach citizenship more effectively than it does.

44. The best values of history are the giving of a knowledge of law, its necessity, and the mode of its operation.

45. The highest value of the study of literature is the inspiration that comes from a consideration of the qualities that make men great.

46. The pupils use their leisure time in a wholesome way.

47. The pupils read books in great numbers, and they like fiction best of all.

48. The pupils read the popular magazines extensively, and they distribute their interests over almost the entire field of magazines published.

49. "Movies" play an important part in the life and experience of the pupils, and they exhibit healthy, discriminating judgment with respect to them.

50. The week-ends are spent in a sane and wholesome manner.

RETENTION IN HIGH SCHOOLS

In a mimeographed report prepared by F. C. Ayer, Director of the Department of Research of the schools of Seattle, Washington, a study is presented of the retaining powers of certain high schools. The argument which Professor Ayer followed in interpreting his findings and his explanation of the method which he used in the compilation of the table are here quoted together with the full table.

As a matter of fact, the presence of a large number of relatively old pupils in the high school, other things being equal, is everywhere taken to be an indication of school efficiency, because it is a mark of the holding power of the school. From the educational point of view, the holding power of the high school is one of the first measures of its success. If the high school is not adapted to attract and care for its high-school population successfully, it cannot be said to be giving satisfactory community service. The most common method of estimating the holding power of the high school is to compare the relative number of pupils in the high school and in the elementary school.

In order to discover the exact position of Seattle in this important aspect of secondary education, statistics have been assembled, through the co-operation of school superintendents elsewhere, which make it possible to compare thirty-three cities in the United States of over 100,000 population, including Seattle, on the basis of the October, 1923, enrolment in the twelve school grades. Special and part-time classes are not included.

THIRTY-THREE LARGE CITIES RANKED ACCORDING TO HOLDING POWER IN THE SENIOR HIGH SCHOOL (OCTOBER, 1923, ENROLMENT)

City	Senior High School Pupils		Junior High School Pupils		Elementary-School Pupils	
	Number	Percentage	Number	Percentage	Number	Percentage
Seattle	7,169	16.0	11,130	24.5	27,018	59.5
San Diego	2,041	15.6	3,242	24.7	7,839	59.7
Spokane	2,655	14.7	4,601	25.3	10,905	60.0
Minneapolis	8,693	14.1	15,230	24.5	38,075	61.4
Tacoma	2,680	14.1	4,497	23.7	11,818	62.2
Portland, Oregon	5,683	13.6	10,608	25.3	25,635	61.1
Cambridge	2,020	13.0	3,453	22.0	9,973	65.0
Des Moines	3,343	12.8	6,027	24.6	15,042	62.6
Omaha	4,097	12.8	7,655	24.0	20,142	63.2
Washington	5,319	12.8	10,683	25.5	25,815	61.7
Columbus	4,558	12.5	8,415	23.1	23,648	64.4
Dayton	2,788	12.0	4,938	22.0	14,630	66.0
Denver	4,609	12.0	8,968	25.0	22,799	63.0
New Haven	3,295	12.0	5,898	20.8	18,907	67.2
Indianapolis	5,593	11.8	10,914	22.9	31,081	65.3
Paterson	2,324	11.0	4,864	23.1	13,873	65.9
St. Paul	3,347	10.7	7,153	22.9	20,764	66.4
Worcester	3,026	10.5	6,054	21.2	19,557	68.3
Los Angeles	14,691	10.0	34,441	23.2	99,021	66.8
Rochester	3,720	10.0	8,579	22.7	25,364	67.3
Louisville	3,300	9.9	6,800	20.5	23,100	69.6
Trenton	1,586	9.8	3,729	22.9	10,934	67.3
San Francisco	6,058	9.8	16,513	26.9	38,889	63.3
Salt Lake City	2,393	9.3	6,269	23.9	17,500	66.8
Detroit	12,335	9.2	29,254	21.6	93,398	69.2
Cincinnati	4,094	9.0	10,586	24.0	30,491	67.0
Reading	1,421	8.8	3,169	19.8	11,437	71.4
St. Louis	7,640	8.8	18,834	21.7	60,433	69.5
Wilmington	1,199	8.5	3,387	24.2	9,428	67.3
Newark	4,840	7.4	13,334	20.4	47,245	72.2
Philadelphia	17,323	7.2	48,856	20.0	177,738	72.8
Baltimore	6,550	7.0	17,505	18.0	70,062	75.0
Jersey City	2,939	6.4	10,185	22.2	32,769	71.4

The twelve grades have been divided into three groups on the conventional basis: (1) elementary school, the first six grades; (2) junior high school, Grades VII, VIII, and IX; and (3) high school, Grades X, XI, and XII. The thirty-three cities have been arranged in the accompanying table in order,

the city having the largest percentage of enrolment in the senior high school being rated first; the city having the second highest percentage of senior high school pupils is rated second; etc. Cities having only seven grades below the high school are not included.

MENTAL CHARACTERISTICS OF VARIOUS GROUPS OF COLLEGE STUDENTS

A committee of the faculty of Stanford University, under the chairmanship of Professor L. M. Terman, has made a report on student ability and its relation to scholarship. This report, which has been published, contains facts and conclusions which are significant not only for college education but also for high-school education. Part of the summary of the findings and part of the conclusions may be quoted.

The average score of undergraduate men entering during the two autumn quarters combined is 71. The average score of undergraduate women entering for the two autumn quarters is 72.

Members of the men's major-sports teams have an average score of 61; of the freshmen swimming, tennis, and soccer teams, 70; of the varsity swimming team, 78; of the women's athletic teams, 72; of the dramatic club, 78; of the debating team, 82.

Men initiated into fraternities have a somewhat lower average score than non-fraternity men. Women initiated into sororities have a slightly higher average score than non-sorority women.

These differences indicate that various college groups have different average abilities. The scholarship of these groups should be judged with these differences in mind. Conclusions are sometimes drawn concerning the effect of participation in sports, or of fraternity life, on scholarship. Such conclusions are evidently not valid unless the abilities of the students are considered. It is also of some significance to know that various athletic and social groups typically contain men and women of different degrees of ability.

Students entering from large high schools (attendance 1,000 or over) make a higher average score than those entering from smaller high schools.

Of the men scoring below 50, only about one in four remain six quarters; of the men scoring below 45, one in twelve; of the men scoring below 40, none.

The average score of disqualified men is 60; of men disqualified on one quarter's record, 55; of men who withdrew without leave, 66; of men who remained six quarters, 76.

These facts show that the scores on a mental test may be used by either the college or the high school to predict with a fair degree of accuracy which students are very likely, or unlikely, to succeed in college. With reference to this prediction, the authors of the report have the following to say:

However, the limitations of a psychological test should always be borne in mind. It is not a perfect measure of general intelligence; nor does it give an analytic picture of a subject's specialized abilities or disabilities. It does not tell us whether a given student will have the health and industry to succeed; nor does it measure social and moral qualities, although these are known to have more or less positive correlation with intelligence.

Finally, we may cite the findings of the committee on the relation between age and standing in the test.

There is a marked negative correlation between age of entrance and psychological score. That is, in general, the younger the student, the higher the score. A similar negative correlation was found between entering age and scholarship marks. In general, the younger the student, the higher the scholarship record.

In commenting on this fact, the committee makes the following statement concerning university policy. A somewhat similar statement might be made concerning the policy of the high school.

It has been shown that so far as the quality of the students obtained is concerned, the minimum age limit has the opposite effect from what is desired. Whether the student who enters college early loses more in the way of non-academic college values than he gains in other ways is a question that will be answered according to one's conception of the essential function of institutions of higher learning. Attention is called to the fact that the widespread use of psychological tests in all the public schools is breaking up the lock-step and making it possible for the gifted child to reach the high school, and to graduate therefrom, a year or two earlier than formerly. If Stanford University bars them out in favor of candidates of more nearly average ability, they will go elsewhere. The effect of the present sixteen-year age limit is to bring about the rejection of just those candidates who have found it most easy to master the work of the twelve lower grades. The facts argue for the abandonment of a lower age limit.

EDUCATIONAL TERMINOLOGY

One who reads carefully the articles that appear in the successive issues of the *School Review* cannot fail to be struck by the loose use of terms which constantly occurs in the educational writings

of the present day. For example, one author in the March number uses the term "grades" in the title of his article, while another employs the terms "mark" and "grade" interchangeably. "Grade" is the term in general use to distinguish the successive groups of pupils in their progress through the school and should be used exclusively for this purpose. The term "mark" is accurately descriptive and has but one use which is clearly understood. There is a similar, but less confusing, use of the terms "pupil" and "student" in articles in the secondary field. The more careful writers use "pupil" when speaking of the high school and "student" when referring to the college. There is also the confused use of "schedule" and "program of recitations." The former is distinctive; the latter is properly used only in the expression "program of studies" which is applied to all of the curriculum offerings of a school. School men in other countries avoid the confusion into which we have fallen by using the terms "schedule" and "timetable." "Extra-curricular" is another descriptive word which is now inaccurate. When the activities thus designated first appeared, they were quite outside the formal studies comprising the curriculum. With the broader aims now accepted, the curriculum has expanded to include all educative experiences, among which the great variety of social activities now organized and directed by the modern school are recognized as having an important place. The term "extra-classroom" should be used as more accurately descriptive in designating these.

The late Charles H. Johnston made a vigorous effort to clarify and standardize the terminology of educational writings. Writers for the *School Review* could read with profit the chapter on "High School Terminology" in the book published after his death, entitled, *Junior-Senior High School Administration*. The claim that teaching is a profession would be strengthened by a more exact use of language in our professional journals.

FRANKLIN W. JOHNSON

THE CLASS MEETING AS A LABORATORY PERIOD

A school visitor who recently spent an entire week in a city of 15,000 people reports what would be an amusing, if it were not an

almost tragic, conception of the class period as conducted by most teachers. Class after class presented to the observer the question-and-answer procedure; finally, at the end of the week he discovered an English class in which the pupils were quietly reading to themselves. After the visitor entered, the teacher apologized for the absence of customary activity, explaining that the pupils had finished their "recitation" fifteen minutes before the bell. Moreover, for his benefit, she instituted an extempore review; whether it was a review of the term's lessons or of the day's assignment is not stated.

This experience indicates that traditions block the way of any superintendent who is trying to improve teaching. Most teachers think that the business of the pupils is to *learn* lessons assigned day by day from the one textbook available, that the teacher is a quiz-master whose duty is to *hear* lessons, and that the classroom is a *testing* place and nothing more. Futile indeed is any attempt to improve teaching procedure until, by a vigorous preliminary campaign, such obsolete traditions have been supplanted by at least four newer ideas.

First, the function of the school is properly to supervise and direct the pupils while they teach themselves. No one actually teaches another; an "instructor" puts the learner in the way of teaching himself. The value of study lies primarily not in the smatterings of fact acquired or even in the skills implanted but rather in the attitudes and habits with which pupils, through their own activities, become equipped for further work in similar fields.

Second, the class is a workshop in which, under guidance, the pupils are actually engaged with materials adapted to the course. Occasional quiz periods are appropriate in order that the pupils may be held sharply to account for certain uniform assignments. It is folly to prescribe any definite portion of class time to be thus expended or any unvarying place for it in the class period. The essential is that mere quizzes be as infrequent and as brief as possible. Much of the class period should be used to start pupils on new inquiries, and liberal time should be given to making known the results of completed pupil enterprises.

Third, the idea of lock-step assignments as the bulk of class work must be resolutely abandoned. Instead, with a modicum of

uniform assignments to hold the group together, the pupils must be launched upon suitable individual enterprises. Naturally, this renders necessary in the classroom itself an equipment which will supplement richly the class textbook. An English or a social-science class, for example, ought to meet in a room equipped with reading materials sufficient in amount and variety to make possible individualization of work, comparable with the activities of the best science laboratories.

Fourth, the pupils need to be taught that the fundamentals of intelligent work are the recognition of a problem, the collection of data, the organization of ideas, the forming of judgments, the testing of results, and the application or use of the data for presentation, usually to the class as an audience. A modern classroom presents but infrequently the spectacle of children listening to recitations on materials that they have all studied. Instead, they are at work, or they are listening to their classmates as they present the results of their individual work.

At present, elaborate systems of supervised study are unwise and unnecessary. Imposed upon poorly equipped schoolrooms, upon teachers who cling to traditions of lesson-hearing, upon courses of study blocked out page by page in textbooks, supervised study is bound to fail. But a suitable beginning may be made by any supervisor or teacher who will insist that the class time be used for starting new work, much of it individual, for carrying out that work with the teacher's help, and for giving publicity to that work when completed. The classroom is a workshop, not a recitation place; the attention of the pupils is pointed forward, not backward.

R. L. L.

ANALYSIS OF INDIVIDUAL PUPILS IN DEPARTMENTAL REPORTS

The attention of the editors of the *School Review* has been called to a new type of departmental accounting as practiced in an Illinois high school of five hundred pupils. Successive annual reports, now in their fifth year, are filed in the principal's office, each report consisting of several sections corresponding to the number of departments of instruction. The report of the English faculty for 1922–23

may be taken as an example. In its 160 closely typewritten pages are included the reports of five instructors who detail the work of their classes seriatim. Each instructor describes the units of instructional material, outlines his outstanding classroom methods, and records his recommendations for the following year.

Best of all, and occupying fully one-half of the 160 pages, are the careful and elaborate analyses of individual pupils. Of the 400 pupils in the English department, all are mentioned by name; two-thirds are characterized briefly, and at least one-half are accorded one or more paragraphs of minute description. Three reports by different teachers—a "problem case," an "unusual ability case," and a "pupil initiative and appreciation case"—may be cited as typical.

Case 1.—This student (Freshman, thirteen years old) is a problem because she seems to have developed a failure complex. She has more than average difficulty with formal matters of written English and is too shy to take part easily in class discussions. She is not studiously inclined but has an unusually good sense of responsibility. She expects to find everything hard and foresees failure. She invariably loses her head in a test. She takes off her glasses when she gives a talk before the class because she says that then she cannot see the faces and is not so scared. She has made noticeable improvement this year in ability to write adequate English and to hold her own in class discussions. She needs more than anything else to experience success at the same time that she is held to stricter standards than I have required of her this year. For example, at the beginning of the year she lacked sure "sentence sense." I always had her correct her mistakes and told her repeatedly that I wanted her to work to overcome the habit of running sentences together. Early in May she turned in a paper on which were several such mistakes. I said to her, "You are still running sentences together just about as badly as you did in the fall. I am disappointed. I hoped that you were going to overcome that fault entirely this year. I believe that you could have if you had really tried as hard as you could." For once I made no attempt to minimize her failure to attain desirable standards. It seemed to work. After that she handed in three or four papers, not one of which contained a single error of the kind. I was able at the close of the year to commend her for having conquered the fault. Recommended to regular work next year.

Case 2.—This student (Sophomore, fifteen years old) was not in residence when the semester began and, while absent, carried on his work by conference. On the "novel unit" he wrote a detailed study of forty-two typewritten pages on "The Social Life of the Natives in Kipling's India." He has read at least fifteen foreign novels, including *Anna Karenina* and *The Resurrection*. He has

written reviews of the books of Tolstoi, Bojer, and Bjornsen, following the professional style of magazine reviewers. He made a study of contemporary book reviewers and wrote a critical paper on "Lovett as a Reviewer," basing his work on about thirty reviews. He also made a study of the various critics writing for the *Chicago Daily Tribune*. He finished his work by reading some books on the technique of the novel. He has distinct ability for research. His power of organization and mastery of detail are remarkable for a boy of his age. His greatest weakness is his reluctance to use his initiative. He follows suggestions intelligently and works diligently at all assignments but has never definitely stated a preference for doing a job in a certain way or for doing any particular sort of a job other than the one suggested. He has a spark of humor and is capable of original thought; he has not, however, enough of the rebel in him to question those in authority.

Case 3.—This student (Senior, seventeen years old) reported on "Insects," and her report was a good illustration of the interest a pupil can find in a simple subject. Her discussion before the class both proved her own interest and held the interest of the group. It was one of the outstanding reports of the year. The following are the poems she found and used: "To Make a Prairie" (bee) by Emily Dickinson, "The Humble-bee" by Ralph Waldo Emerson, "Summer Wind" (bee) by William Cullen Bryant, "On a Honey-Bee" by Philip Freneau, "To an Insect" (katydid) by Oliver Wendell Holmes, "A Noiseless, Patient Spider" by Walt Whitman, "The Conqueror Worm" by Edgar Allan Poe, "I Sigh for the Land of the Cypress and Pine" (humming bird) by S. H. Dickson, "Culprit Fay" (beetle) by J. R. Drake, "From the Grasshopper" by Richard Lovelace, and ten other poems of similar content and import.

Hundreds of such individual analyses cover all school subjects for a full high-school generation; they are the records of the pupils made at the proper time by the several teachers most intimately acquainted with their work; they are accessible to all of the teachers. Obviously, when information is needed about any pupil, no guesswork is necessary; reliance on grades is not imperative. Moreover, attention to individual needs is bound to be at a premium, and the teachers themselves, with lesson-hearing as a small part of their routine, are certain to recognize as their real function the guidance of growing power in their pupils.

THE ADMINISTRATION OF SUPERVISED STUDY

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In the articles on supervised study which have preceded this, the concluding article of the series, it has been made clear that the chief aims of supervised study are economy and efficiency in learning and teaching. That the ends desired have not always been attained in the schools in which supervised study has been tried in no sense disproves the plan nor presages its abandonment as a method of teaching. The mass of scientific evidence in support of supervised study is too great to be disregarded. The causes of its failure can usually be identified if those concerned take the trouble to find them. In general, when an experiment with supervised study is unsuccessful, the failure can be traced to one or more of the following difficulties: (1) inability of the teachers to meet the requirements of successfully directing pupil study, (2) the fallacy of regarding supervised study as a generalized type of teaching technique, and (3) errors in administration.

Supervised study presupposes on the part of the teacher an understanding of pupils as individuals, skill in diagnosing their study habits and needs, and wisdom in the use of remedial measures. Lacking training in the directions indicated, the teacher will probably flounder and appear to accomplish less with her pupils than under the old, lesson-hearing plan. As a result, she will become discouraged and will probably form a dislike for supervised study and fail to carry out satisfactorily any part of the plan. It is, therefore, an administrative mistake to impose supervised study on a corps of teachers without specially preparing them for the task.

Before supervised study is introduced, attention should be given to (1) developing in the teachers correct concepts of the goals of instruction and the place of study in school procedure, (2) familiarizing the teachers with the several types of teaching and

the application of the principles of supervised study to each, (3) developing on the part of the teachers a proper grasp and appreciation of the common difficulties of pupils in study and ways of overcoming them, (4) impressing on the teachers the importance of effective study habits and habituating the teachers themselves to the technique of forming and modifying habits, and (5) stimulating the teachers to adopt a scientific attitude not only toward supervised study but toward all educational problems.

While the success of supervised study in a school system will always depend more or less on the character and training of the teachers, it is aided or handicapped by the kind of administrative provisions under which it must be carried out. The purpose of this article is to set forth and evaluate some of the administrative measures essential to a successful experiment in supervised study.

The supervised-study plan.—Many plans for the administration of supervised study have been tried, and each plan has its advocates. The most commonly used plans are the divided or study-recite period and the special daily or weekly conference hour. The study-recite plan aims to retain the formal recitation and to transfer a part of the home or out-of-class study to the classroom where it can be done in the presence of the teacher. The obvious purpose of setting aside a part of the class period for supervised study is the improvement of the recitation through the supervision of pupil study. In practice, however, it does not always work out successfully, for the reason that the interruption in passing from study to recitation or vice versa creates a break in the learning process which interferes with the pupil's progress. Many teachers are unable to meet the demands of the divided period. To them, the study part of the period represents merely a transfer of the home-study period to the classroom, or it opens the way for another period of recitation with a double dose of home study.

In either event, the aim of supervised study is defeated, for no improvement in learning or teaching is actually effected. On the contrary, such disadvantages as the distraction resulting from study in the classroom, monotony from too long continued attention to a subject, the feeling of being watched while at work, and, in the case of increased home assignments, the imposition of a

burden which soon becomes irksome, tend to turn supervised study into a liability rather than an asset.

If administrative officers insist on an arbitrary division of the study-recite period, as has too frequently been done, they are inviting disaster, for formalism will result, and that is the one evil supervised study is designed to avoid. On the other hand, if the teachers are trained in the technique of directing study and are allowed to make such use of the class period as conditions warrant, the study-recite period may be reversed or varied to suit the needs of the class and the character of the work. Home study may be practically eliminated if the teacher makes judicious use of the time at her disposal. Individual difficulties may be diagnosed and remedial instruction given. The class hour may thus become a period of pupil accomplishment, and all of the purposes of supervised study may be realized.

In the case of the single daily or weekly period set aside for pupil-teacher conferences or supervised study, we find not a method of teaching but an administrative device of value chiefly for "clearing-house" purposes. In practice, it becomes an opportunity period for make-up work. It is a boon to retarded pupils but in reality offers little to the superior pupil who too frequently views the period—and not without cause—in the light of detention.

The University High School plan[1] presents supervised study not as an administrative device but as a method of learning and teaching. The daily study-recite lesson-technique is discarded. The materials to be learned in the various subjects are organized in units which embody principles to be understood. The pupil goes about the task of acquiring the principles irrespective of daily class lessons, and he continues his work from class period to class period until it is completed. If he wants to take up his task during a free period at school or at home, he is free to do so, but he does it with the feeling that he is engaged in his own enterprise and that he will be judged as an individual by his own accomplishment.

Under the plan, the teacher is not bound by an administrative form but is guided by an underlying psychology and an adaptable

[1] Henry C. Morrison, "Supervised Study," *School Review*, XXXI (October, 1923), 588–603.

technique of teaching, conceived with the idea of allowing individual freedom to pupils and teacher in the attainment of their common aims. The instructor, therefore, is not dismayed by pupil difficulties which are transferred from study at home to study in the classroom. These difficulties afford the real test of teaching and are regarded by the teacher as a challenge to justify her worth. If she can maintain morale while steering her pupils as individuals through the pitfalls of discouragement and temporary failure to success, and in so doing develop in them effective habits of work as well as direct the successful accomplishment of definite tasks, she has realized the major functions of supervised study.

The length of the class period.—In schools in which the study-recite plan of supervised study is employed, the length of the class period varies widely, ranging from forty-five to ninety minutes. Objections to both extremes have been frequently voiced. It is claimed, on the one hand, that a forty-five-minute class period is entirely too short to accomplish the results desired from the dual exercises of preparing and hearing lessons. On the other hand, the ninety-minute period is criticized on the ground of prodigality. It involves a lengthening of the school day, an increase in teaching personnel, and the doubtful question of economy of pupil energy and effort. When the gain in pupil results is compared with the increased cost of the plan, it is extremely doubtful if a balance can be maintained in favor of the means employed to produce the ends.

In the light of the tests which have been made with supervised study and a varying length of class period, both teachers and administrative officers agree that a class period of sixty minutes affords sufficient time in practically all subjects for both pupils and teacher to accomplish as much work in a given subject as needs to be done in one day. Accordingly, the sixty-minute period is rapidly growing in favor in both junior and senior high schools, regardless of the form of supervised study employed.

Classroom equipment required for successful supervised study.—In many instances, administrative officers have imposed supervised study on a school without considering the question of equipment needs. If supervised study means nothing more than lesson

preparation in a classroom, it would still require more than textbooks and desks. All of the collateral materials essential to good lesson preparation, such as reference books, supplementary texts, dictionaries, etc., should be made conveniently accessible in order that the pupils' time may be conserved. To undertake to conduct supervised study without adequate classroom equipment and supplies imposes on the teacher a task of which, at best, she can make only a partial success. With only adopted texts to work with, it is questionable whether pupils will encounter a sufficient variety of study situations to reveal even to the most thoroughly prepared teacher their real intellectual interests and needs.

The classrooms must be fully equipped study rooms if the teachers are expected to inculcate in their pupils desirable study habits. To require pupils and teachers to work together under other conditions is to command them to do the impossible. It represents an administrative short-sightedness that is inexcusable. Let the administrative officer whose conscience is burdened with the necessity of introducing supervised study into his schools first supply the materials and equipment needed to convert the classrooms into workshops, and he will have less difficulty in supplanting lesson-hearing.

Study-hall and library provisions.—If a school is seeking, by means of supervised study, to make its students independent, it cannot realize its aims without making provisions for the proper care of pupils during free periods and for the encouragement of intellectual interests through library service. It is "penny-wise" economy to slight either of the foregoing needs in any school, although a detention room may serve as a study hall, and the school library may be only a name in schools which are willing to take it for granted that the pupils will learn to study effectively of their own accord, or to trust to chance the development of intellectual interests.

In schools which are striving to teach pupils how to work through supervised study, both a general study hall and a well-equipped library are essential. It is much better to combine the general library and the study hall and to have a competent teacher-librarian in charge who knows how to direct and manage pupils in a laboratory

of books. This is not a substitute for supervised study; it is a necessary corollary. It offers great possibilities for the independent exercise of powers and interests developed during the supervised-study hours.

An established policy regarding the assignment of home work.—Many schools have no policy regarding the assignment of home work. As a result, the practices of different teachers vary greatly. Some teachers require practically all lessons to be learned out of school, while others seem to realize the evils of required home study and accordingly assign very little. Regardless of what the practices may be, a school, if it accepts the responsibility of teaching pupils how to study, must reduce home assignments to the minimum and must direct and supervise the major part of the pupils' work in the classrooms. In this way only can teachers discover the difficulties of pupils and give help in overcoming wrong habits of study and in establishing proper habits.

When supervised study is introduced in a school system, a policy regarding home work must be promptly established. If promiscuous practices of assigning work to be done outside of class are allowed to continue unregulated by school policy, it need occasion no surprise if supervised study does not prove successful. This does not mean that the school must prohibit pupils from doing home work. As a matter of fact, the school fails to do its full duty by its pupils if it does not stimulate them to do some work at home or in free periods. Such work, however, should be strictly voluntary and should be dictated by the pupil's interests and needs.

A technique of providing for the special abilities and disabilities of individual pupils.—The criticism has been frequently made that in classes conducted on the supervised-study plan the slow pupils profit more in proportion to their capacity than those of superior ability. The cause of this condition is the absence of a definite technique of directing the progress of superior pupils. Teachers give more time to backward pupils in supervised study and allow the gifted pupils to shift for themselves. Such pupils will usually meet the requirement for the average without much direction from the teacher, but they generally fail to work at their highest level of efficiency unless they receive proper guidance from the instructor.

This condition is due to the administration and teaching and is not an inherent weakness of supervised study. The opposite criticism can justly be made of teachers who possess special skill in directing the activities of superior pupils but who are lacking in the technique required for the proper direction of slow pupils.

If the school assumes responsibility for undertaking to develop such capacities as the individual pupils may have, it cannot rely on any generalized instructional technique. The administration must see that special techniques are developed and understood by the teaching personnel for the intelligent treatment of individual pupils who may possess either general or special abilities or disabilities. Pupils as individuals, although handled in groups, should not be denied the opportunity to receive the stimulation and guidance needed to enable them to progress at a rate in harmony with their potential abilities.

Conclusion.—No technique of teaching has yet been devised which is so flexible and so adaptable to the proper instruction of individuals in groups as supervised study. The weaknesses that have developed in practice are not inherent but are due to errors of administration and application. It offers a solution to a most vexing problem in secondary education, namely, the elimination of classroom waste. It has passed the stages of discussion and promiscuous experimentation. If it is wisely administered and thoughtfully applied, no doubt need be entertained about the results.

THE PROBLEM OF DIFFERENTIATION AND STANDARDIZATION OF ART WORK IN MODERN HIGH SCHOOLS. II

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THE GENERAL ARTS COURSE

Twofold purpose of the general arts course.—The subject-matter of all courses in art must be organized and developed in such a way that the student will be made conscious of the great practical relation of art to life in general and will have a sound and usable foundation for later art work if he decides to specialize in art. To attain this end most effectively, the entire art work of the school should begin with the general arts course and be built around it. A plan for developing the general arts course as the center of the school art program is shown in Figure 2. From this course the pupils may go into all of the special courses in art or into some of them. They may elect to specialize in the industrial arts on the one hand or in the fine arts on the other. If there are possibilities of extension work and of co-operation with technical or art schools, the pupils may be encouraged to pursue their specialization beyond the work offered by the high school. In cities where co-operation of this character is possible, much of the load of art instruction of a specialized nature may be transferred from the public school to the art school or the museum school. Such a possibility is indicated in Figure 2.

As the general arts course is to be the center of the art activities of the school and the basis of the other art courses, it should be planned with the greatest care. It should be taught by the supervisor of art or by a teacher specially trained to offer such a course. It should be an educational course in the true sense of the word. It should be informational and appreciational in the highest degree. It should interest the pupils in their heritage of art and acquaint

them with the historical material in the arts. It should equip them to develop and fit into an American civilization rapidly acquiring a high sense of aesthetic taste and appreciation in all things.

The purpose of the general arts course is twofold. It deals, first, with the development of appreciation and, second, with the development of technique. The aims may be stated as follows:

1. *Appreciation* (*visual, mental*). To develop knowledge and understanding of art quality so that the pupils may be able to

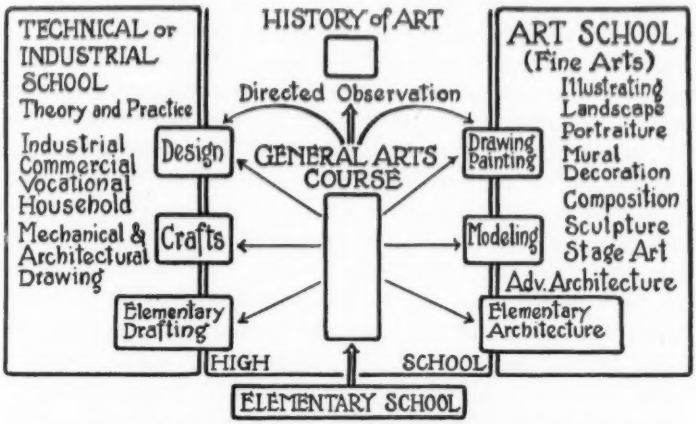

FIG. 2.—The relation of the general arts course to the specialized elective art courses of the high school and the further connection with the technical or art school.

judge it with authority, whether in the fine arts or in the industrial or commercial arts, and to endow the pupils with a love for, and an understanding of, beauty in nature and in worthy works of man. The teaching of art appreciation has been quite generally advocated for the following reasons: (*a*) That the pupils may more completely enjoy life and react to the beauties therein through ability to see and appreciate the beautiful in the works of nature and of man. (*b*) That the pupils may become intelligent consumers, demanding that the things they buy measure up to standards of art. (*c*) That the artistic standards of American manufactured products may be raised to meet the demands of better trained consumers. (*d*) That, through a knowledge of art principles

and a desire for, and an appreciation of, beauty, "these pupils may as the men and women of tomorrow" belong to the class of citizens who build more beautiful homes, furnish them artistically, and demand beauty in public buildings, bridges, parks, waterfronts, fountains, monuments, and the many things which contribute to domestic, civic, and national life. The aim of such teaching is to make better and happier citizens.

2. *Exercise in creating beauty* (*technique, motor*). To develop ability to choose and arrange fine objects and things for specific uses with respect to a standard of excellence and also to originate, design, and produce fine objects and things with respect to a standard of excellence; to increase the visual experience; to develop powers of invention, initiative, imagination, and observation. The motive for instruction in this part of the course is to enrich appreciation, to give practical value to the work and a real interest to the pupil, to stimulate love and respect for the work of the artist and skilled artisan by actual creative endeavor on the part of all pupils.

The methods suggested for the teaching of art appreciation and for the conduct of the work of the general arts course may be summarized as follows:

1. Illustrated talks by the teacher on the elements of art: line, form, tone, color, and composition.

2. Notebooks in which the pupils will paste examples from the fine arts, from the industrial arts, and from historical material to illustrate these art elements in things of everyday use. Such examples may be secured from newspapers and magazines, from advertising material sent out by various firms, and from prints and photographs now easily obtained in quantities from supply houses, art schools, museums, state universities, and other sources.

3. Stereopticon lectures, the slides for which may be obtained from state universities, art museums, and supply houses.

4. Organized trips to art museums, stores, civic buildings, and other points of local interest to view objects of great beauty.

5. Exercises in technique, experience with the various mediums of artistic expression, original creative work, and training in the use of art principles.

6. Bulletin board to display examples of beauty collected by both teacher and pupils.

7. Map for marking points of art interest in the community.

8. Lectures and exhibits by representatives of stores and factories.

Pupils in the general arts course should be sent from time to time into the various specialized art courses for directed observation. This will enable pupils with little art experience to come into personal contact with art activities of an advanced nature and may be a means of arousing their interest and stimulating their imagination with respect to specific problems in drawing, design, lettering, modeling, crafts, and project work. Such supervised observation will acquaint pupils with many practical problems of art which otherwise might be overlooked. It will add a broader scope and meaning to the general arts work. In many places such a scheme may be extended to include the observation of actual art production in shops and factories.

In the large city most of the means mentioned for carrying on the work of art education are available. There is a great need at the present time, however, for traveling exhibits and collections of good art material for use in the small schools throughout the country. A traveling library, consisting of a small collection of the best books on art subjects, is another need of the small school in art education.

State directors of art education needed.—Suitable means for assisting the small schools shut off from the advantages of the large city must be worked out. The most practical method by which this service can be supplied is through centralized agencies organized to undertake this work. Many of our museums, art schools, and state universities are providing service of this nature. The most satisfactory method of handling this situation, however, would be to place the organization of courses and the collection and administration of material under the jurisdiction of the various state departments of education. *There should be a specialist in art education in every state of the Union for the purpose of directing this work.* Three states have commissioners of art education at the present time—Massachusetts, New York, and Pennsylvania.

These states lead all of the other states in the matter of art education. They will continue to lead until other states provide equal or better opportunities for the systematic development of this department of education. The state problem of art education was discussed in detail at the St. Louis meeting of the Western Arts Association (1923) by C. Valentine Kirby, director of art education for the state of Pennsylvania.[1]

Organization of the general arts course.—The organization of the general arts work may proceed along several different lines. It may be included with the "industrial arts" scheme, which has its origin in the manual-training or vocational-education movement; or it may be organized with the home-furnishing and personal-apparel problems, which are associated with household-art work; or it may be organized from the standpoint of the study, analysis, and understanding of the fundamental elements of art structure as they may be applied to the many different problems of art from the narrowest to the broadest conceptions of life.

If real art knowledge is to be the aim, it would seem that the last plan is the most logical and the one likely to produce the best results from the point of view of the time spent. Such a plan would be based on the hypothesis that all art consists of various arrangements and treatments or compositions of the elements of line, form, tone, and color. Hence the objective of the general arts course, organized on this plan, would be to give the pupils a practical knowledge of the use of these elements in appreciating or producing art in any form which seems appropriate or desirable for development in any grade or period of study within the school.

This form of study may most effectively be undertaken by teaching art both by analytical methods and by synthetical methods. This involves, first, pointing out, searching for, and systematically, comparatively, and objectively studying the elements of beauty and, second, carrying out carefully planned exercises pertaining to the elements and principles of art, with emphasis on creative work.

It is desirable to analyze art quality in every available form, from an alarm clock to a skyscraper, in both ancient art and modern

[1] C. Valentine Kirby, "The Organization of a State Program in Art Education," *Bulletin of the Western Arts Association*, VII (October 15, 1923), 69–80.

art, and in different degrees of simplicity and complexity and by methods and classification of subject-matter suited to each grade and age of pupil from the kindergarten through the college or university.

For the purpose of comparative study, an indispensable factor in such a course, it is necessary to have a quantity of direct and objective material. Actual choice may thus be made and taste acquired by practical participation in selecting and in discriminating between superior and inferior art products. By a comparative study of examples and by directed observation and reflection with respect to examples, the faculty of sensing relative excellence may be made to result in the increased sensitiveness and appreciation desired.

Materials may be accumulated and classified for this purpose according to the types of objects and things with respect to which people, in both their individual and their composite capacities, must make choices. Use may be made of objects and things in stores, factories, homes, and museums, when possible, but school collections must be accumulated especially for the general arts work so that the course will not be dependent altogether on outside material. Collections of pictures, rugs, furniture, pottery, clocks, lamps, jewelry, textiles, posters, and similar objects may be secured in photographic form or in the form of prints or slides, if it is impossible to obtain original objects to any great extent.

A tentative and general classification of subject-matter for analysis in such a course follows. It should be noted that considerable opportunity is offered for the introduction of practical exercises and participation in the production of art quality. These practical problems should be developed and introduced in order that the pupil may have the educational experience of actually creating, even though in a small way, some of the things studied and in order that he may more fully understand the processes and art principles involved. Actual production assists greatly in teaching appreciation and the true worth of the objects studied. Exercises may be undertaken in this connection in drawing and design, pottery and tile work, book-making, woodwork, leather, metal, cement, or in any of the crafts or industrial arts. Carefully selected historical material should also be studied wherever possible

for comparison, enlightenment, and a knowledge of the evolution of art objects and processes and the effect which these have had on modern products. Assigned reading and study should be carefully planned to open up an industrial, historical, and social outlook with regard to art and to present important, selected facts to the pupil in an easily assimilated form.

Supervisors and teachers of art may find that other divisions and classifications of material for such a course may more specifically meet their needs. The important thing is to have some logical and systematic method of grouping subject-matter.

In general, outlines for the development of courses should be considered as suggestions rather than as absolute requirements. Teachers should be given freedom to modify the exercises in accordance with varying conditions, provided they follow the general type of work indicated and attain the objectives set up for the course. Mr. Roscoe, an English educator, has made the following valuable suggestion in this respect:

> The greatest need in education is a body of teachers who deserve freedom, their desert arising from their knowledge of the subject which they teach, from their enthusiasm in teaching it, and from their unassailable skill in presenting the subject in such a manner as will evoke the hearty co-operation of pupils. That teacher deserves freedom—and will assuredly win it—who can claim to know what he is teaching and why he is teaching it in a particular way.

Very close co-ordination should be developed between the general art course and the departments of home economics and household art, shop work, and all art courses, as well as the courses in civics, history, the natural sciences, mathematics, literature, physics, chemistry, and the general work of the school.

Suggested Outline for General Arts Course

Introduction—Topic: Evolution.—Discuss the life and customs of the original Americans (native Indians) and compare these with the life and customs of modern Americans. Contrast the primitive mode of living with our modern conveniences and possibilities for beauty in surroundings. Make the pupils appreciative of the wonders of present civilization and the future possibilities. Point out the fact that this advance in civilization is, in large part, the result of the development of practical science and art. Similarly, trace the evolution of art in various countries whenever opportunity presents itself for such a comparison.

In this course it is important to bring the pupils to a realization of the fact that art quality is a significant factor in the final satisfaction to be derived from the products of a scientific generation.

"In a study of modern life we see that the growth of art and culture is dependent on our complete mastery of new and novel conditions resulting from the innumerable mechanical inventions that have marked our epoch. Indeed, it is no exaggeration to say that the final triumph of democracy over adverse forces seems dependent on our success in the mastery of machinery as applied to modern home-making."[1]

The special study of architecture and sculpture is included under Topic 1, buildings; domestic architecture, under Topic 2, permanent equipment; painting (picture study) and industrial arts, under Topic 3, home furnishings; commercial art, under Topic 4, printing and advertising; and minor arts, under Topics 5, 6, and 7. Other divisions may be added.

1. *Study of buildings (civic and general architecture, sculpture)*

Evolution: cave, tent, igloo, log cabin, bungalow, palace.

Architecture: distinctive features of Egyptian, Assyrian, Greek, Roman, European, Mohammedan, Oriental, and American (all countries if time will permit).

Characteristic features of modern buildings: school, church, theater, store, bank, depot, art gallery, museum, and other public structures. Statues, fountains, monuments, parks, playgrounds, beaches, boulevards, drives, roads and streets, fine scenery and landscapes, landscape gardening.

Study of building materials and different kinds of construction: wood, stone, metal, brick and clay products, cement, stucco, etc.

Use of decorative tile in public buildings, mural decorations, sculptural ornament, decorative treatment of floors, walls, ceilings, and general art applications wherever possible.

Collateral reading and study.—History and evolution of art and architecture. Story of building materials and processes of construction. Study of city planning, principles of design and arrangement in parks, water-fronts, boulevards, and environs. Discuss European cities noted for their beauty, and show how some American cities have taken advantage of natural resources of beauty in their development.

Make a study of mural decorations, fresco paintings, mosaics, tiles, and other decorative arts.

Make a study of sculpture (clay, stone, bronze, plaster, wax) in the flat, in the round, monumental, architectural, and industrial.

Discuss the responsibility of future citizens with respect to civic art.

[1] William Laurel Harris, in review of book, *Art in Industry*, by Charles R. Richards. *Bulletin of the Art Center*, I (May, 1923), 201. New York: Art Center, 65 East 56th Street.

Exercises.—Make designs for city projects and improvements, designs involving landscape gardening and designs for bridges and viaducts.
Use school, college, or other prominent buildings in posters and decorative composition.
Locate on large city map hung in schoolroom various places of art interest. Use different colored pins, such as red for paintings, white for statues, blue for architecture, etc.
Landscape painting and sketching.
Make charts showing elements of art structure from historical material and from modern sources.
Write a theme on sculpture and illustrate by snap-shots made by students of fine monuments in the city. Draw map and locate.

2. *Study of permanent equipment (real estate)*

Note: This study should be undertaken from the art standpoint but made to co-ordinate with or include technical study of equipment whenever possible. It should aim to supply art knowledge which will be of value to prospective home-builders or purchasers of homes.
Characteristic walls and foundations (brick, stone, wood, and stucco and the decorative possibilities of each), walks, drives, and elementary landscape gardening. Garden furniture and statuary.
Decorative roofs (shingle, "color-blend," slate, "Spanish" tile, thatched versus tin, felt, and tar paper) and artistic chimneys.
Room plans (arrangement, light, comfort).
Interior walls and treatment. Built-in closets and conveniences. Fireplaces (brick, tile, cement). Doors (texture, grain, color, spacing of panels, etc.). Windows. Lighting.
Floors (wood—hard and soft—tile, cement, linoleum, and composition).
Use of tile in the home (kitchen, bathroom, fireplace, porch, walk, etc.).
Painting of the house (exterior and interior), color schemes, paints, stains, enamels, varnishes, wax, etc.

Collateral reading and study.—History and evolution continued. Story of building materials and processes of construction (manufacture of tile and all clay products, lumbering and the woodworking industry, mining and metal-working, or any industry having interest in connection with the various topics of this outline).
Study of paints, varnishes, enamels, etc.; composition roofing; carpentry, masonry, and other trades.

Exercises.—Make house and room plans and plans for gardens and yards.
Make drawings of details of houses, showing artistic features, such as entrances, doors, windows, gates, wall details, etc.
Architectural and mechanical drawing.
Design chimneys, fireplaces, doors, gates, etc.

Make in clay and cement floor and fireplace tile, garden furniture, and statuary.
Color harmony for house-painting projects.
Make charts showing elements of art structure in objects studied.
Write a theme on some industrial art and illustrate it with clippings from magazines or other sources.

3. *Study of home furnishings (personal property)*

Note: This study may include both the fine and the industrial arts and all movable or individual objects and belongings with regard to which art knowledge will assist in effectively and artistically equipping the home.
Wall paper and wall coverings (calcimine, burlap, tapestry).
Rugs and floor treatment.
Furniture and arrangement.
Draperies, window shades, curtains, and upholstery material.
Pictures and wall ornaments (paintings, plaques, mirrors).
Clocks, art pottery, bronzes, book-racks, desk sets, and household ornaments in general.
Lamps and lighting.
Statues and modeled ornaments.
Sofa and chair cushions.
Flowers and their arrangement.
Books and book-cases.
Table linen and other table covers.
China and silver.
Utensils of all kinds.

Collateral reading and study.—History and evolution continued. Story of medieval craftsmen; modern manufacturing practices, tools, processes, raw materials; transformation of materials into products to meet human needs. Literature pertaining to the production of pottery, furniture, metal-work, rugs and textiles, books, lamps, etc. Study of architecture, painting, and sculpture. How to entertain your guests; conduct in the home.
Picture study is a broad subject. A general course may include topics similar to the following: the artist and his work, materials, methods and style, pigments, favorite subjects; discussion of appropriate pictures for the home and framing and hanging; analysis of pictures from the standpoint of line, form, tone, color, and composition; special subjects—landscapes (land, water, sky), spring, summer, autumn, winter, plains, mountains, deserts, trees, foliage, flowers, plants; daylight and dark (morning, noon, night, sunset, afterglow, moonlight); moods of nature (calm, storm, fog, rain, sunlight, shadow); human beings (portraits, children, adults); animals and birds; marine pictures; activities, industries, calamities (peace, war, sport, fire, flood, etc.); emotions (love, hate, anger, fear); history, drama, poetry, etc.

Exercises.—Problems and exercises may be developed in co-ordination with this division of the course from practically any of the fine and industrial arts, including drawing and painting, illustrating, constructive and decorative design, modeling, woodworking, pottery and tile work, weaving and basketry, book-making, dyeing, stenciling and batik, cement work, interior decoration, drafting and instrumental drawing, and other arts and crafts if time permits or demand arises.

Make charts to illustrate elements of art structure with regard to objects studied and charts from historical material used in connection with course. Write a theme on interior decoration or one of the crafts studied and illustrate it with clippings from magazines or other sources.

4. *Study of printing and advertising (commercial art)*

This study aims to give information relative to newspapers, books, magazines, illustrating and designing, commercial advertising, posters, bill-boards, cartooning, lettering, printing, composing, typesetting, stationery, letter-heads, circulars, and historical material. It should include an appropriate theme pertaining to some feature of importance. Photography; commercial reproduction; the making of zinc etchings, half-tones, and color plates; and the artistic quality of illustrations and reproductions, are topics suggested for themes.

5. *Study of personal apparel*

While this division co-ordinates with the art department, it can be more effectively administered under the department of household arts. It comprises a study of fashions, fabrics, clothing (men's, women's, and children's—summer and winter), personal decoration and ornamentation (costume design and millinery), jewelry, leather work, etc. Study of weaving, dyeing, shrinking, color harmony, and other art principles, and historical material is included in the course.

6. *Study of decorations for special occasions (art for drama)*

This comprises a study of the principles of art and decoration for special festivities—Hallowe'en, Thanksgiving, Christmas, Lincoln's and Washington's birthdays, St. Valentine's day, Fourth of July, etc.

Public pageants, parades, festivals, fairs, etc.

Problems and exercises in school decoration for special parties and for school and public entertainments, including costume design, stage setting and decoration of scenery, lighting, etc., may be undertaken and correlated with the study of historical material. Many topics for themes are presented.

7. *Study of vehicles and transportation*

Evolution: study of wagons and carriages, boats, steam and electric trains, automobiles, balloons and airships, etc., and the possible application of art. Make charts showing elements of line, form, tone, and color in objects of transportation. Correlate with science, English, and history. Themes.

The citizen of today has a definite, even if vaguely defined, responsibility for the approval or disapproval of practically all of the objects mentioned in the foregoing list. Upon the citizen of tomorrow will rest the setting of standards for new objects and works and for replacements.

In all of these private and public enterprises the standards of taste are gradually, but definitely, being raised. Education in the public school surely has a responsibility in this respect. It is a problem of art education to determine how the school can best prepare the individual to meet the increasing artistic requirements of modern life. Every pupil should enter life as an efficient user of the products of modern science and art. Every pupil should have intelligent insight, refined appreciation, and general attitudes making for efficiency as consumer and citizen in this sense. All pupils should exhibit the power of perceiving the beautiful and of expressing themselves in beautiful form in relation to the useful adjuncts of life to be found on every hand.

The particular subjects or units of study to be undertaken and the particular methods of presentation in each grade must be determined by careful research and experimentation. The work should be closely enough related to the actual life-experiences of the pupils to have a real interest for them.

Much remains to be accomplished with respect to the problem of appropriateness of subject-matter for the different mental ages of pupils, with respect to the problem of the "carry-over" of information or appreciation taught, and with respect to the general educational procedure and the method of presenting units of instruction.

It is imperative that our pupils leave school as individuals, not only competent to use the ability acquired in school but possessing, as well, the power to keep on learning after they have left school. We must make sure that our work in art education is accomplishing this much desired objective.

SHOULD PHYSICS BE REQUIRED FOR UNIVERSITY ENTRANCE?

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In 1921–22 the University of Washington was revising its entrance requirements. Faculty opinion was divided regarding the advisability of making high-school physics an absolute requirement for entrance to all colleges of the University. It was deemed best by the Committee on Secondary School Relations to ascertain the attitude of secondary-school officials before finally deciding, as they are in a better position than college faculties to know what is feasible in the high schools. A questionnaire was sent to all of the four-year accredited high schools in the state of Washington, and replies were received from 163 of the 198 schools. As the replies came from small schools, medium-sized schools, and large schools, they are doubtless typical of accredited high schools the country over.

For the purposes of the present study, to supplement the information gained through the questionnaire, data were secured from all of the high schools listed in the state high-school directory for 1921–22. The accredited high schools range in size from those having about twenty-five pupils and employing three teachers to those with about two thousand pupils and seventy teachers. It should be borne in mind that many of the schools giving some high-school work are really very small and do not offer complete high-school courses. According to the directory, the schools offering high-school work were distributed as shown in Table I.

Of the high-school population of 47,804 pupils in the year 1920–21, only 4,200 were listed as studying physics, while 7,802 were listed as studying general science. Of the 496 schools giving high-school work, 123 had courses in physics. Apparently 373 schools did not offer work in physics, although it is possible that

some of the courses listed as "science" may have been physics. The distribution for all of the sciences is given in Table II.

It is interesting to note the number of pupils enrolled in the other high-school subjects as compared with the number enrolled

TABLE I

Number of high schools accredited for four years of work	198
Number of high schools accredited for three years of work	9
Number of high schools accredited for two years of work	15
Number of high schools accredited for one year of work	1
Total number of accredited public high schools	223
Number of denominational schools accredited for four years of work	8*
Number of unaccredited high schools enrolling six or more pupils, 1920–21	135
Number of high schools enrolling less than six pupils and more than one pupil in the high-school grades, 1920–21	138
Total number of districts classified as high-school districts for the year 1921–22	247
Total number of public schools enrolling more than one pupil in the high-school grades, 1920–21	496

*Not included in the present study.

in the sciences. Table III shows clearly that current practices do not require physics to be taken in many of the high schools. Of the total of 47,804 pupils enrolled in the high schools, only about

TABLE II

	Number of Pupils
Physics	4,200
Chemistry	3,288
Botany	2,673
Zoölogy	1,061
Biology	1,604
General science	7,802
Physical geography	1,322
Geology	54
Physiology	994
Astronomy	2
Psychology	261
Total	23,261

9 per cent were studying physics. Probably about one-half of all those who graduate from the high schools have studied physics. Apparently the authorities do not believe in absolutely requiring it.

The following questionnaire was sent in March, 1921:

1. Are you unqualifiedly in favor of having physics made a requirement for entrance to every college in the University of Washington?

2. Are you unqualifiedly opposed to making this requirement?

3. Would you prefer to have required (*a*) one unit in physics or (*b*) one unit in either botany or zoölogy or physics or chemistry? Why?

4. If none of the foregoing expresses your opinion, will you kindly state it.

5. Why should all students who graduate from high school take a year of physics in the high school?

6. Why should all students who graduate from high school *not* be required to take a year of physics in the high school?

7. If the requirement is made, when, in your judgment, should it be put into operation in the University?

8. Is your high school prepared to offer a year of physics to all students?

If one were to arrive at a final decision from the tabulation of the answers to the first question in the questionnaire, one would

TABLE III

	Number of Pupils*
English	47,958
Mathematics	33,922
Commercial subjects	27,890
History	23,823
Sciences	23,261
Modern languages	14,408
Home economics	11,002
Manual training	8,312
Music	7,707
Ancient languages	7,437
Civics	6,372
Drawing (mechanical and freehand)	5,566
Agriculture	1,443
Industrial arts	1,413
Miscellaneous	1,076

*In reality, this is the number of class enrolments. In a few cases the pupils took more than one course at a time in a given subject. For example, forty-nine pupils took fourth-year English and first-year college English at the same time. However, the figures given represent the approximate number of different pupils in the various subjects.

necessarily conclude that superintendents and principals are overwhelmingly against requiring physics of candidates for admission to the University. The replies were distributed as shown in Table IV.

One would expect those not in favor of making the requirement to express opposition, but this was not true in all cases. The num-

ber unqualifiedly opposed to the requirement is smaller than the number not in favor of it. Preference for not having physics

TABLE IV

	Yes	No	Total
Unqualifiedly in favor of requiring physics.....	42	121	163
Unqualifiedly opposed to requiring physics....	78	53	131

required was indicated in the answers to the first question, but definite opposition was expressed in the answers to the second question.

Table V presents the answers to the question, "Would you prefer to have required (*a*) one unit in physics or (*b*) one unit in either

TABLE V

	Yes	No	Total
One unit in physics.....	20	2	22
One unit in botany, zoölogy, physics, or chemistry.....	129	2	131

botany or zoölogy or physics or chemistry?" The preference is distinctly in favor of allowing students to elect the science which they offer for entrance to the University. Only 20 of the 153 replying would positively require physics if an option is allowed from the four sciences including physics. While the question is very much like No. 1, the number answering it in the affirmative is only half as great as the number answering the first question in the affirmative. This difference is doubtless due to the inclusion of physics among the alternatives.

One might jump to the conclusion that the reluctance to require physics is due to inadequate school equipment. In all probability this is not the case if the replies are correct to the question, "Is your high school prepared to offer a year of physics to all students?" Of 159 replies, 135 were "Yes" and 24 were "No."

Before the conclusion is reached that physics should be dropped as a college-entrance requirement or banished from the high school, a study should be made of the extent to which physics is taught in the high schools of the state and of its place as compared with other

subjects, and an analysis should be made of the replies to the various questions.

A study was made of the subjects combined with physics in the schedules of the teachers in the accredited high schools. The latest state high-school directory (1921–22) furnished the data for

TABLE VI

THE TEACHING COMBINATIONS OF PHYSICS WITH OTHER SUBJECTS

	Frequency
Science:	
Agriculture	8
Botany	7
Biology	15
Chemistry	22
Geology	4
Home economics	6
Physical geography	11
General science	39
Not specified	14
Total	126
Mathematics:	
Algebra	48
Arithmetic	8
Geometry	49
Not specified	27
Total	132
Manual training	33
Commercial subjects	14
Bookkeeping	6
Economics	4
English	9
French	5
History	32
Music	5
Athletics	13
Latin	6

the study. It is entirely probable that in some cases the reports of the schools to the state superintendent were not specific enough to be absolutely exact. Even with allowance for occasional incorrect interpretations, the directory undoubtedly shows the approximate status. The detailed facts of the combinations are indicated in Table VI.

While the combinations represent nearly every subject offered in the high-school curriculum, the predominant number of combinations is found with subjects naturally related to physics. The sciences are combined with physics in 126 cases and with mathematics in 132 cases. Manual training, which should properly be closely correlated, is found in combination with physics 33 times. One is somewhat surprised to find history so frequently on the teaching schedule of the physics teacher. In many cases several different subjects are taught by the physics teacher. Combinations like physics, botany, English, and history are not infrequent, and occasional combinations are found like the following: physics, general science, algebra, geometry, arithmetic, history, Latin, and civics. It is quite possible that some of the subjects listed as science or general science may be physics wholly or principally. With such a variety of combinations of teaching subjects it is manifestly impossible to have adequately prepared teachers of physics. Undoubtedly some of the reasons for not wishing to require physics could be traced to the very inadequate preparation of the teachers.

An analysis of some of the replies furnishes valuable suggestions regarding the attitude of those who are actually dealing with the problem in the high schools. Quotations from typical replies will probably convey the point of view better than anything else.

A large number believe that physics is too difficult for many pupils. Some consider the difficulty entirely overestimated or even imaginary. The following quotations illustrate the points of view:

> There are some boys and girls who cannot learn physics.
>
> Botany and zoölogy are more suited to the mental maturity of the high-school boy and girl than physics. The subject is beyond them, and there are but few things in it which are of common interest to students. They, therefore, get very little out of it.
>
> For some students an understanding of physics is practically unattainable.
>
> Some do not have mental capacity for this type of learning. If required, dishonesty is fostered, for most are determined to get graduation papers.
>
> A few pupils seem to derive little lasting benefit from physics. There seems to be a false impression that physics is more difficult than other branches of science, and the student is discouraged before starting the work.

A considerable number believe that physics is too mathematical as usually presented in the high school. If the technicalities of

mathematics were omitted and the subject made interesting through experimental demonstration, it would be much more attractive.

Many expressed the idea that chemistry enters into the everyday life of pupils more than physics. It is continually stated that chemistry is especially important for girls taking home economics courses. The following are typical answers:

Many pupils elect chemistry, which is more to the needs and liking of girls as well as boys.

Physics is unrelated, in the main, to the life and experiences or expectations of most girls.

Chemistry is a better prerequisite than physics for home economics courses.

A school which has a strong course in home economics should be allowed [by the University] to substitute chemistry for physics.

Many students, especially girls, are not adaptable to physics. Neither is it of any use to such. It would be more advisable to allow them chemistry or household chemistry.

Chemistry is better preparation for domestic science, possibly for agriculture.

There are many worthy students who find physics distasteful and at the same time appreciate chemistry.

Girls get more out of chemistry and very little out of physics.

It is *really wicked* to require some to go through the ordeal.

Physics for boys, chemistry for girls.

A very considerable number of those answering consider the biological sciences more valuable than physics for the majority of pupils. It is stated by many that biology touches life at more points than physics and that more pupils are therefore interested in biology than in physics. The following are typical answers:

Biology *fits* more high-school students than either of the others [physics or chemistry].

Botany or zoölogy will do most girls more good than physics will.

So much cultural information is contained in the other sciences, principally botany, zoölogy, or physiology.

While a boy would naturally prefer physics, I think a girl would prefer botany or zoölogy.

Botany, zoölogy, and chemistry are as cultural as physics and, except for certain courses, fully as utilitarian.

Biology or botany, or zoölogy or chemistry, as preferred by individual students, would be fully as valuable for college preparation.

A knowledge of biology is equally as important as a knowledge of physics in the lives of boys and girls, and perhaps even more so.

They do not all *vibrate* to that subject. There is much more *education* for some girls in the fields of botany and zoölogy.

Botany seems very much worth while to many girls to whom physics is not attractive.

Biology and chemistry make a better combination for home economics courses.

Not a few superintendents expressed the opinion that physics is a very important subject from both the academic and the practical standpoints. In several cases, while they oppose requiring the subject for college entrance, they express strong belief in its values. The following replies are typical:

Perhaps it is prejudice on my part, but it seems to conform with my theory of secondary education that every high-school student should be exposed to this important subject, especially for its informational content. Ignorance of physical laws is unbecoming to a high-school graduate. I believe, however, that elementary physics should be taught more from a popular point of view than from a severely scientific point of view.

Every phase of physics is applicable to the everyday problems in life and, I believe, should be given to all high-school students. It will give them a better understanding of many common things. It is directly usable in any line of work that the student may take up. It should arouse the student to further study and observation and open up to him new opportunities for thought, investigation, and advancement. It will broaden his vision and understanding.

Physics clears up more of the problems than do the other sciences which the ordinary thinking person would like to solve. There seems to be slipshod, superficial work in botany and zoölogy that is not possible in physics.

I do not believe that botany, zoölogy, or chemistry gives the student such a general knowledge of his everyday surroundings as does physics.

I believe that physics is the basis of all other sciences and should positively be given.

Physics should be required, but I do not believe that its laboratory and mathematical sides should be so heavily stressed.

Physics most nearly connects up with everyday life. Physics presents the most favorable opportunity for *thinking*. Physics, although dreaded by all, is not too difficult for any boy or girl who hopes to graduate from high school. Physics gives an insight into scientific research.

In theory, they all should study it, for the reason that physics, dealing as it does with *matter* and *force*, is a fundamental science. In practice, they

all should not, for the reason that some have not had the prerequisite mathematics necessary for physics. Some students should not be required to take a year of physics because they are not going on to college and do not need to take the mathematics necessary for physics.

Some recent studies indicate that there is a large amount of attention being given to the study of biology in the high schools of the country. General courses in biology seem to be displacing specific courses in botany, zoölogy, and physiology.

The status of the teaching of the biological sciences in the state of Washington has been studied by Frank K. Foster.[1] His findings are confirmed by A. M. Holmquist in a study of the status of the biological sciences in the state of Minnesota.[2] Foster says, "The tendency for the biology course to displace the other biological sciences is not local and peculiar to Washington. A study of the biological sciences in Minnesota points out the progress of biology and the decrease in other biological sciences offered."[3]

The foregoing facts, opinions, and analysis justify the following conclusions:

1. Most principals and superintendents—those who have most to do with determining high-school curriculums—do not wish to have physics made an absolute requirement for graduation or for college entrance.

2. A large number express the personal belief that physics is a very important secondary-school subject.

3. They believe that it should be elective, especially for girls.

4. The grouping of science subjects is in a deplorable condition.[4] Undoubtedly in many cases principals and superintendents are

[1] Frank K. Foster, "Science in the Accredited High Schools of Washington," *School Review*, XXX (June, 1922), 424–30.

[2] A. M. Holmquist, "Biological Sciences in Minnesota High Schools," *School Science and Mathematics*, XXII (February, 1922), 166–74.

[3] Unpublished thesis, University of Washington.

[4] L. V. Koos, *The Administration of Secondary-School Units*, pp. 58–92. Supplementary Educational Monographs, Vol. I, No. 3. Chicago: University of Chicago Press, 1917. Leonard V. Koos and Clifford Woody, "The Training of Teachers in the Accredited High Schools of the State of Washington," *The Professional Preparation of High-School Teachers*, pp. 213–57. Eighteenth Year Book of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1919.

to blame for the medley, but in the majority of cases it is due to the fact that a very wide range of subjects is required in small high schools. Changes in staff are so frequent that when vacancies occur the superintendent must fit in new teachers as best he can. In the smaller cities the new superintendent has little or no power in selecting the members of his staff. Frequently they are selected by the school board without consultation with the superintendent. Often when a new teacher begins her work in September she does not know until the morning school begins the subjects that she will be required to teach. It is not seldom that they find subjects assigned for which they have made no preparation. I have known teachers who were assigned chemistry or a foreign language after their contracts were signed. They had never studied the subjects but went to summer school for six weeks to get what meager introduction they could to them. What wonder if their pupils did not become interested in the subjects!

5. Evidently the lack of adequately prepared instructors is one important reason why so many pupils dislike the work and an explanation of the attitude of the superintendents and principals toward its requirement. The heterogeneous combinations with other subjects indicate that few of the teachers can do the subject justice. A teacher who is obliged to teach five or six classes a day in five or six different subjects, usually unrelated, cannot prepare adequately; nor can he be equipped with sufficient information to teach the subject effectively.

6. All of this suggests the need for much more careful planning of courses, better preparation of teachers, better equipment, better teaching, and more accurate thinking about the objectives of education. Until these are secured, we cannot tell whether physics or any other subject ought to be required.

FINANCIAL ACCOUNTING IN STUDENT ACTIVITIES

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If extra-curricular activities have developed until revised methods are necessary to conduct them efficiently, it is also true that new methods are needed to administer the finances of these same activities. The plan that is here suggested was developed in a high school of slightly more than two hundred students and is working well.

In the past, as each activity was organized and it became evident that finances were necessary, a student treasurer was selected. Before long it was deemed wise that each treasurer have a faculty adviser. This plan removed many of the difficulties but required a great deal of the faculty's time for supervision and sometimes resulted in the students feeling that their integrity had been questioned. Since few of the faculty members were familiar with accounting principles, a variety of accounting systems resulted. This made auditing very difficult, and often it was not done at all. Furthermore, it necessitated the keeping of many petty accounts at the bank and made it almost impossible to have financial co-operation among the various activities. Invariably some accounts were prosperous and others bankrupt, and the idle cash balances of prosperous activities could not easily be made available to those in temporary need.

In order to meet these objections the following system was adopted. First, all of the bank accounts of the existing organizations have been consolidated into one account, called the M.C.H.S. Activities Fund. Second, the responsibility for handling these funds is centralized under one faculty member, the head of the commercial department, known as the financial secretary. Third, each organization retains the same officers as formerly. The student treasurer has practically the same duties as before except that he transacts his business with the financial secretary instead of with the local bank.

The duties of the financial secretary are as follows: He receives and deposits all funds for all high-school activities. He keeps the books and the files of the orders, bills, and receipts. He draws all checks on the high-school activities fund when requested by the proper student officers. These checks are then countersigned by the proper student treasurers. In this work the principal's secretary aids materially by accepting money at any time during the day, giving a receipt for it, and then turning it over in bulk to the financial secretary. The bookkeeping is done by the advanced class in accounting under the supervision of the financial secretary.

A set of books consisting of cash book, journal, ledger, and order books is kept. The cash book shows the receipts and disbursements of all cash handled by all of the organizations. In the case of each entry the proper explanation is made. The journal shows the items that do not involve the actual transfer of money. All entries in each of these books are posted to the ledger, where accounts are kept with each of the different organizations. Order books are in the hands of each organization to be used in making purchases. Orders are drawn in triplicate; the original goes to the dealer who is selling the goods; the duplicate is sent to the financial secretary to be used in checking the invoice; and the triplicate is retained by the organization making the purchase. Very rarely is an entry made from an order blank, because invariably the bill is paid when the goods and the invoice arrive. The cash payment is almost always possible because the bank accounts are consolidated and all funds are available at any time.

The operation of the system can best be shown by tracing an actual transaction. The athletic manager needed to purchase a football. He first filled out an order blank and sent the original to an athletic goods dealer; he sent the duplicate to the financial secretary, and the triplicate he kept for future reference. When the football arrived, the manager presented the invoice for payment. A check was then drawn on the high-school activities fund in favor of the dealer and signed by both the financial secretary and the treasurer of the Athletic Association. The expenditure was recorded from the check stub to the disbursement side of the cash book, where the name of the account affected was shown together

with an explanation. The amount was then posted in the ledger to the debit side of the Athletic Association account.

Another example will show the handling of incoming funds. In the early part of the season a drive was made for the sale of football tickets. One day $105 was collected. The various salesmen left their money with the principal's secretary as they had an opportunity to see her. At the close of the day she deposited the total amount with the financial secretary. An entry was made on the receipt side of the cash book, crediting the Athletic Association with $105. This was then posted in the ledger to the credit side of the Athletic Association. The deposit slip for $105 was turned over to the student treasurer of the Athletic Association to enable him to make the proper entry in his book.

This plan gives the student officers all of the freedom that they formerly had without the danger. They can check their books against the financial secretary as they had previously done with the bank. This arrangement makes it possible for either student or faculty member to ascertain at any time the exact financial standing of any organization.

Open accounts are kept with all of the permanent organizations: Senior Class, Junior Class, Sophomore Class, Freshman Class, Athletic Association, Band, Glee Club, Debating Association, Flower Fund, High School Annual, and Movie Fund. A general account is kept for handling the finances of temporary affairs like banquets, school parties, etc. The disposition of the money that accumulates in this fund is left to the discretion of the faculty.

The following are the chief advantages of the plan: (1) there is a uniform system of accounting, properly supervised by one individual, which makes it possible to ascertain the standing of any organization on short notice; (2) it economizes faculty time by doing away with much red tape; (3) it is flexible so that money may be easily loaned by one organization to another; (4) each organization has its own records so that it can easily check the records of the financial secretary; (5) the students do not feel that their integrity is being questioned; (6) it gives the commercial students some practical work in filing and accounting; (7) the board of education and the public in general feel that the school's business is handled in a business-like manner.

RECENT JUDICIAL DECISIONS RELATING TO THE POWERS OF BOARDS OF EDUCATION

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Within the past year or two a number of decisions involving practical problems of public-school administration have been rendered by the courts. Some of these are significant because they serve to establish more thoroughly certain generally accepted legal principles; some express points of view at variance with the weight of authority; while still others deal with wholly novel situations.

AUTHORITY OF SCHOOL BOARDS TO CONTROL THE DRESS OF PUPILS

Relatively few cases have come into the courts testing the authority of boards of education to regulate the dress and personal appearance of the pupils. A novel case[1] of this kind was recently decided, however, by the Supreme Court of Arkansas (1923). The board of education adopted the following rule and had the principal read it to the student body:

> The wearing of transparent hosiery, low-necked dresses, or any style of clothing tending toward immodesty in dress, or the use of face paint or cosmetics, is prohibited.

A Miss Pugsley insisted upon using talcum powder and was suspended from the school until she consented to abide by the rule of the board. She sued for a writ of mandamus requiring the board to re-admit her. The court refused to grant the writ because the law vests boards of education with broad discretion in making rules for the government of the schools, and the courts will not interfere unless such rules are clearly unreasonable. It is the function of the courts to pass not on the wisdom or expediency of board regulations but merely on their reasonableness. Since members of the board "are in close and intimate touch with the

[1] *Pugsley* v. *Sellmeyer*, 250 S.W. 538.

affairs of their respective districts and know the conditions with which they have to deal . . . . the courts hesitate to substitute their will and judgment for that of the school boards which are delegated by law as the agencies to prescribe rules for the government of the public schools of the state. . . . . We are unwilling to say, as a matter of law, that a local condition might not exist which would make a rule of this character desirable." One of the justices, however, wrote a dissenting opinion, basing his dissent on the unreasonableness of the rule.

Another case[1] involving the authority of school boards to control the dress of pupils was decided by the Supreme Court of Mississippi in November, 1921. The trustees of a county agricultural high school adopted a rule requiring the students to wear a prescribed uniform, not only while in attendance at school but "when visiting public places within five miles of the schools, even on Saturdays and Sundays." Action was brought to enjoin the enforcement of the rule as being ultra vires and unauthorized. In defense, it was claimed that because of local conditions such a regulation was necessary for the maintenance of proper discipline. The court sustained the rule with reference to students living in dormitories but held that it was not applicable to day students except while in attendance at the school and while going to and from the school.

In what appears to be the only other decision[2] on this topic, the Supreme Court of Iowa in 1921 passed on the reasonableness of a rule which required the students who participated in the graduating exercises to wear caps and gowns. These were furnished free by the board of education, but a number of the students refused to wear them. Such students as refused were not allowed to take part in the graduating exercises and were not granted diplomas. A writ of mandamus was sought by a Miss Valentine to compel the board to grant her a diploma together with a certified copy of her grades. The court held that "the board may deny the right of a graduate to participate in the public ceremonies of graduation unless a cap and gown is worn" but that it is not a reasonable exercise of authority to deny a diploma on this ground. "Such

[1] *Jones* v. *Day*, 127 Miss. 136, 89 So. 906, 18 A.L.R. 645.

[2] *Valentine* v. *Independent School District of Casey*, 191 Ia. 1100, 183 N.W. 434.

a rule may be justified in some instances from the viewpoint of economy, but from a legal viewpoint the board might as well attempt to direct the wearing of overalls by the boys and calico dresses by the girls." The board was ordered, therefore, to grant the plaintiff her diploma and a certificate of her grades.

From the foregoing discussion, it is clear that two principles of law govern the authority of boards of education in making rules with reference to the dress and personal appearance of the pupils. The first of these is that the board must not act ultra vires; that is, it must act within its authority. School officials may pass only such regulations as relate specifically to school affairs. In the second place, all such regulations must be reasonable, and this is a matter for the courts to decide. It should be said, however, that the courts are very reluctant to declare a board regulation unreasonable, and in no case will they pass on its wisdom or expediency.

DISTRICT LIABILITY FOR NEGLIGENCE

The liability of a school district for injuries sustained by a student in the manual-training department while operating machinery unprotected by proper safety devices and safeguards was a matter for determination by the Supreme Court of Wisconsin in 1923.[1] The statutes of that state require employers to furnish and use the necessary safeguards to protect employees and frequenters, and school districts are expressly included in the term "employers." The issues involved in this case are of such significance as to warrant a somewhat extensive quotation from the opinion of the court.

> It must be conceded that under the common law the defendant, in establishing and maintaining this department, is performing a purely governmental function, for which it cannot be held liable for damages sustained by a pupil resulting from negligence of the officers, agents, and employees of the district. This has been held in an unbroken line of authorities in this state, ... and the doctrine of non-liability is fortified further by decisions in nearly all the states of the Union. . . . .
>
> Persons become employees and frequenters by their own volition, and there is no compulsion for either class of persons to assume their respective positions and attitudes. Under the laws of this state, the attendance of pupils in schools is not voluntary, but compulsory. They are not permitted as a

[1] *Sullivan* v. *School District No. 1*, 191 N.W. 1020.

matter of right to become frequenters in public schools. Pupils are wards of the state. . . . .

The doctrine of non-liability of a municipality for the performance of governmental functions is so deeply rooted in our jurisprudence, and has so generally been recognized and accepted for so long a period of time, that in effect it has virtually attained the force of a statute, and, while such doctrine has been recognized for over half a century, no legislature has attempted to nullify it.

Manual training is now a constituent part of our system of education, and instruction in that branch involves the use of mechanical devices. But whether or not the doctrine of non-liability of a school district should be changed is a matter which rests with the wisdom of the Legislature, and not with the courts, and until such change is effected by a proper statute, we must consider it our duty to adhere to our former decisions and to pronounce in favor of the non-liability doctrine.

The only other opinion the writer has been able to discover involving district liability for injuries sustained by a student while operating dangerous machinery in a manual-training department is that in the case of *Herman* v. *Board of Education*,[1] rendered in 1922 by the New York Court of Appeals. The court held that, while the board of education was not liable for the torts of its agents, it was liable for its own negligence.

When the state surrendered to the board a portion of its sovereign power and delegated to it a duty imposed upon the state by the constitution . . . . and it accepted the trust, it undertook to perform with fidelity the duties which the law imposed upon it. It is not immune from suit. The state has not created an irresponsible instrumentality of government and invested it with the power to put children at work at dangerous machinery which it would be a statutory offense against its laws to use in private industries. . . . . The corporate cloak covers the individual trustee, but where the corporate body acts for itself, and not through the agency of its officers and employees, it is bound to act with due regard for the safety of the children and others in its care, in the discharge of those duties imposed upon it by law which are not delegated or delegable to others. . . . . Although it acts in its corporate capacity, it is not absolved from liability as a governmental agency to the extent of the funds vested in it for the purpose by statute, or which it is empowered thereby to raise by local taxation.

The same general legal principle was involved in the case of *Williams* v. *Board of Trustees*[2] (1923), though the injury to the pupil

[1] *Herman* v. *Board of Education*, 234 N.Y. 196, 137 N.E. 24, 24 A.L.R. 1065.

[2] *Williams* v. *Board of Trustees*, 198 N.Y.S. 476.

was sustained in a different manner. The board had entered into a contract for the transportation of pupils to and from school. A child fell over the side of the wagon used for this purpose, was caught in the wheel, and was seriously injured. In a suit for damages, the New York Supreme Court ruled that a board of education may be held liable for its own negligence and that, having undertaken to provide for the transportation of pupils to and from school, it must furnish a reasonably safe conveyance. This involves "not only a vehicle reasonably fit for the purpose in view but also such reasonable supervision and care as the circumstances demand." Nor can a board avoid the liability placed upon it by delegating the performance of its duty to a contractor.

It is clear that in New York school boards are liable for injuries growing out of their own negligence. Apparently, this is not the rule in any other state unless the statutes specifically provide for such liability. The common-law principle of non-liability is supported by a long line of decisions and is well illustrated by a recent opinion[1] of the Supreme Court of North Dakota. While legally on the playground of the school, a thirteen-year-old boy was struck on the head and killed by a swing. In the suit to recover damages, an attempt was made to prove that the board actually knew of the defective character of the swing. Such knowledge, in the opinion of the court, would not have altered the situation, for the board "was acting within its governmental capacity, and for that reason is protected from liability."

Even in New York the doctrine of respondeat superior does not apply; that is, boards of education are not liable for the negligence of their agents and employees. In the absence of statutory provision for such liability, the courts seem to be unanimous in holding that it does not exist. As an illustration, the principal of one of the schools of Cincinnati required a pupil, without the consent or knowledge of his parents, to submit himself for examination and treatment by the school dentist. A tooth was extracted, and it was averred that the dentist negligently fractured the jaw-bone of the patient. The state supreme court ruled that no damages were allowable (1922).[2] In another recent

[1] *Anderson* v. *Board of Education*, 190 N.W. 807.

[2] *Board of Education* v. *McHenry*, 140 N. E. 169.

case[1] (1922) it was held that a school district is not liable in case a pupil is injured on the school grounds by a motor truck in charge of an employee of the board of education, even though the injury is due to the negligence of the driver.

AUTHORITY OF SCHOOL BOARD TO PRESCRIBE THE METHOD OF VACCINATION

It has been commonly held that boards of education may require vaccination as a condition of school attendance in case smallpox exists in the community. This they may do without special statutory authority,[2] for in so doing they only exercise that police power which is inherent in them. But where smallpox does not exist to such an extent as to make its spread dangerous, vaccination may not be required unless the statutes so provide.[3] In a recent case[4] (1922) the authority of a school board to prescribe a specific method of vaccination was tested for the first time. Smallpox existed in the community, and there was no question as to the right of the board to require vaccination. The whole issue was whether or not the board could require scarification and the use of vaccine and exclude from school a student who had been vaccinated by homeopathic treatment. The court found that the action of the board in refusing to recognize a certificate, signed by a homeopathic physician, indicating that the bearer had been successfully vaccinated was neither unreasonable nor arbitrary. Nor did such action violate that portion of the Constitution guaranteeing equal rights to all. This conclusion was based chiefly on the fact that vaccination by scarification is the only method recognized by all medical schools.

PROHIBITION OF HIGH-SCHOOL FRATERNITIES

Within the past few years the authority of state legislatures to prohibit fraternities in high schools has been tested in a number

[1] *Dick* v. *Board of Education*, 238 S.W. 1073.

[2] *Blue* v. *Beach*, 155 Ind. 121, 56 N.E. 89, 50 L.R.A. 64; *State* v. *Cole*, 220 Mo. 697, 119 S.W. 424; *Hutchins* v. *Durham School Committee*, 137 N.C. 68, 49 S.E. 46.

[3] *People* v. *Board of Education*, 234 Ill. 422, 84 N.E. 1046; *Matthews* v. *Board of Education*, 127 Mich. 530, 86 N.W. 1036.

[4] *Abney* v. *Fox*, 250 S.W. 210.

of jurisdictions. The most recent of these cases is that of *Sutton* v. *Board of Education*,[1] decided by the Supreme Court of Illinois in 1923. The statute in question prohibits fraternities, sororities, and secret societies in the public schools of the state and makes it the duty of the school boards to expel students maintaining membership in such organizations. The constitutionality of the law was attacked on the ground that it violates that portion of the constitution imposing on the legislature the duty to provide a system of free schools whereby all of the children of the state may receive a good common-school education. It was alleged that the challenged statute "discriminates between pupils, creates different classes, affects differently the rights and privileges of pupils in the same situation, and subjects certain classes to rules and discipline different from others similarly situated and deprives them of the right to attend the public schools and secure an education." The court, however, refused to sustain this contention, holding that there is no unreasonable discrimination between pupils similarly situated and that the legislation complained of is a legitimate exercise of the legislative power of the state.

The position taken by the Illinois court is supported by all of the other decisions involving the same legal principle. For example, the Supreme Court of Iowa has held that a statute authorizing boards of education to exclude pupils belonging to fraternal societies does not interfere with personal rights and in no way violates the Constitution.[2] So, too, the District Court of Appeals of California ruled that an act prohibiting secret societies in the public schools of the state does not violate that clause in the Fourteenth Amendment which makes it unlawful for any state to abridge the privileges and immunities of citizens of the United States.[3] Education is a privilege which grows out of state citizenship rather than federal citizenship. The same general conclusion was reached in the case of *Board of Trustees* v. *Waugh*,[4] decided by the Supreme Court of Mississippi in 1913.

[1] *Sutton* v. *Board of Education*, 306 Ill. 507, 138 N.E. 131.

[2] *Lee* v. *Hoffman*, 182 Ia. 1216, 166 N.W. 565, L.R.A. 1918C 933.

[3] *Bradford* v. *Board of Education*, 121 Pac. 929.

[4] *Board of Trustees* v. *Waugh*, 105 Miss. 623, 62 So. 827.

It seems that no case has yet come into the courts involving the right of school boards, in the absence of specific statutory authority, to suspend or expel students on the ground of membership in fraternities. In a recent decision[1] (1922) the Supreme Court of Missouri refused to sustain a rule of the St. Louis Board of Education providing that fraternity members "be not permitted to represent the school in any capacity whatsoever; and that they be not allowed to participate in graduation exercises."

> The power of the board to make the rule in this case is to be considered prior to a determination of its reasonableness. The power delegated by the legislature is purely derivative. Under a well recognized canon of construction, such powers, however remedial in their purpose, can be exercised as are clearly comprehended within the words of the statute or that may be derived therefrom by necessary implication, regard always being had for the object to be attained. Any doubt or ambiguity arising out of the terms of the grant must be resolved in favor of the people. . . . . It has uniformly been held in this state in construing a general statute, such as is here under consideration, that the domain of the teacher—in this instance the board—ceases when the child reaches its home unless its act is such as to affect the conduct and discipline of the school.

In the opinion of the court, fraternity membership was not detrimental to the operation of the school, and the rule of the board was therefore declared to be unreasonable.

From the standpoint of policy, educational leaders will likely take issue with this opinion. As a matter of law, it is in conflict with other decisions on the same subject. The supreme courts of Washington,[2] Illinois,[3] and Indiana[4] have upheld substantially the same kind of rule.

DISCHARGE OF TEACHER AND NECESSITY OF FINDING OTHER EMPLOYMENT TO MITIGATE DAMAGES

When a teacher is dismissed by a board without legal cause, it becomes her duty to find other employment in order to mitigate the damages due her, and the board, when sued, may show that she found such employment or that she could have done so by the use of reasonable diligence. In case the discharged teacher does

[1] *Wright* v. *Board of Education*, 246 S.W. 43.

[2] *Wayland* v. *Board of School Directors*, 43 Wash. 441, 86 Pac. 642.

[3] *Wilson* v. *Board of Education*, 233 Ill. 464, 84 N.E. 697, 13 Ann. Cas. 330.

[4] *State* v. *White*, 82 Ind. 278, 42 Am. Rep. 496.

not accept other work, her damages should not be diminished unless it can be shown that she could have secured other employment of the same grade and in the same community. Thus, in a recent case,[1] the Supreme Court of Arkansas held that where a teacher had entered into a contract to teach a common school for a definite term she could not be transferred at the option of the board to the position of truant officer. This work was so radically different from that of a teacher that she was under no obligation to accept it, not even in order to mitigate the damages due her by the board. The same court held, in a still more recent case[2] (1923), that a discharged teacher could recover the whole of the contract price where it appeared that no other position as a teacher could be secured.

SCHOOL PROPERTY EXEMPT FROM TAXATION

The constitutions or statutes of most states exempt from taxation property used for educational purposes. There has been a great deal of litigation to determine when property is so used. In a recent case[3] (1923), the Supreme Court of Minnesota clearly sets forth the legal principles applicable to such determination. The constitution provides that "academies, colleges, universities, and all seminaries of learning" shall be exempt from taxation. Carleton College owned a farm of 260 acres adjoining the campus, acquired to make an attractive setting for the institution, to secure ample grounds for expansion, and to provide milk and farm produce for the college tables. In addition, it owned a number of lots in close proximity to the campus, and on these were residences occupied by professors. Finally, it owned an eighty-acre tract two miles from the campus. The court ruled that the farm and the professors' houses were exempt but that the eighty-acre tract was subject to taxation. In reaching its conclusion, the court relied on two important legal principles: (1) statutes exempting school property from taxation should not be strictly construed; (2) "when an institution is exempted from taxation this includes all its property

[1] *Russellville Special School District No. 14* v. *Tinsley*, 245 S.W. 831.

[2] *Ottinger* v. *School District*, 247 S.W. 789.

[3] *State* v. *Carleton College*, 191 N.W. 400.

devoted to and reasonably necessary for the accomplishment of its purposes."

On account of the great variety of constitutional and statutory provisions exempting school property from taxation, it is difficult to make generalizations. As a rule, however, residences owned by the institution and occupied by its professors are exempt.[1] This is especially true where no rent is paid, the use of the house being considered as part of the salary.[2] So, too, endowment funds are commonly exempt.[3] Fraternity houses, on the other hand, seem to be uniformly held taxable.[4] Likewise, property leased or rented for the purpose of securing an income is commonly, though not always, held subject to taxation.[5]

[1] *Griswold College* v. *State*, 46 Ia. 275, 26 Am. Rep. 138; *Ramsey County* v. *Macalester College*, 51 Minn. 437, 53 N.W. 704; *White* v. *Smith*, 189 Pa. St. 222, 42 Atl. 125, 43 L.R.A. 498; *Emerson* v. *Milton Academy*, 185 Mass. 414, 70 N.E. 442.

[2] *Harvard College* v. *Assessors*, 175 Mass. 145.

[3] *State* v. *Bishop Seabury Mission*, 90 Minn. 92; *State* v. *Carleton College*, 191 N.W. 400.

[4] *Phi Beta Epsilon Corporation* v. *Boston*, 182 Mass. 457, 65 N.E. 824.

[5] *Monticello Seminary* v. *Madison County*, 249 Ill. 481; *Stahl* v. *Kansas Educational Association*, 54 Kan. 542. But see *Brown University* v. *Granger*, 19 R.I. 704, 36 Atl. 720.

CORRELATION BETWEEN INTELLIGENCE AND SCHOLARSHIP

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The chief objection to the use of intelligence tests in the high school is that they do not prognosticate with 100 per cent accuracy. As proof of their failure to do so, it is pointed out that the correlation between intelligence and scholarship is not very high.[1] Generally speaking, in the three upper grades of the grammar school it varies from .4 to .7; in the high school, from .35 to .65; and for college students, from .3 to .5, depending on the type of mental test used and the effort put forth by the pupils in their studies. The reason for this diminution is that as the individual grows older, his interests become more fixed and his abilities more specialized. Hence a general intelligence test is not as likely to do justice to him as to a younger person.

Admitting that the correlation between intelligence and scholarship is not very high, one finds, nevertheless, several errors in the arguments of those who object to the use of intelligence tests. First, they attribute to the tests as such a defect which is one of method only. They assume that a group test, requiring but forty-five minutes to administer, ought to give absolutely reliable results. They seem to forget that even a thorough medical examination usually requires several visits to the doctor's office, and surely the mind is not less intricate than the body. It is not the fault of the psychologist that only a little time is available for the examination of the pupils. Under present conditions, the tests must be constructed so as to fit into the school schedule. Unquestionably, when education directed by diagnostic tests becomes more firmly established, the pupils will be examined in smaller numbers; the

[1] James W. Bridges, "The Value of Intelligence Tests in Universities," *School and Society*, XV (March 18, 1922), 295–303.

tests will be lengthened so as to take into account the factor of mental fatigue; and at least two tests will be given before the pupils are started on their high-school careers. There can be no doubt that this method of procedure would bring out the mental ability of the individual with much greater accuracy than now.

In the second place, the objectors forget that mental alertness, which is the only thing that the tests measure at present, is not the whole constituent of general intelligence or that combination of psychophysical forces which makes for successful achievement either in scholarship or in practical affairs. The other factors which function in the promotion or retardation of the average high-school pupil are sensory acuity, general physical condition, home and economic conditions, effort or application, and interest. The last two factors are psychological attributes quite distinct from whatever it is that a group intelligence test measures.[1]

Finally, the objectors do not seem to be aware of the fact that the degree of correlation between intelligence and scholarship is influenced by the manner in which scholarship is measured as much as by the way in which intelligence is measured. Instead of revealing a defect in intelligence tests, therefore, it may be that the low correlation reveals a defect in scholarship examinations or in the prevailing method of grading scholarship.

In connection with the correlations between intelligence and high-school achievement as usually published, it is seldom stated whether the scholastic achievement was based on standard educational tests or on teachers' estimates as indicated by the daily recitation marks or on final examinations given at the close of a school term and marked by several teachers under conditions which concealed the identity of the pupils.

There are no uniform methods of grading scholarship in the secondary schools. There is no uniformity even in schools of approximately the same size and in the same state. The only explanation for such a situation is either that one method is as good as another—which is improbable—or that all methods are equally

[1] Arthur I. Gates, "The Correlations of Achievement in School Subjects with Intelligence Tests and Other Variables," *Journal of Educational Psychology*, XIII (April, 1922), 235.

unsatisfactory—which is an indictment of the scientific status of secondary education—or that local pride or prejudice or sheer inertia cannot be overcome to the extent of utilizing the best possible method of grading achievement—this, of course, is equally uncomplimentary to the high-school administrator.

What is the best method of grading scholarship? Should it be the daily recitation or a monthly written test, conducted and marked by the class teacher? Or should it be a final test given at the end of the school term, conducted by the department as a whole, each paper marked by several teachers according to a definite scale, as are the examinations given by the College Entrance Examination Board?

The methods in vogue vary all of the way from judging a pupil's scholastic achievement by his daily recitations to judging his achievement by a written final examination which is given as much weight as the daily work. Thus the Wilmington, Delaware, surveyors offer the following suggestion as a basis of promotion: "The teacher's term mark [should] be based on (*a*) daily recitations, (*b*) written tests, at least four a semester, (*c*) notebooks, library assignments, and project reports. The final semester mark should be one-third of the sum of the averages or estimates for the three types of work."[1] No mention is made, it will be seen, of a final examination. Moreover, there are some subjects, like algebra and the modern languages, in which there is no need for the keeping of notebooks or the making of project reports and which demand very little in the way of library assignments. Apparently, in such subjects the promotion of the pupil would depend entirely on the marks obtained in the daily recitations and the monthly written tests conducted by the class teacher. The fate of a pupil's promotion under such conditions would lie exclusively in the hands of the teacher.

In addition to the harm that might result from the possible bias of a teacher for or against a certain pupil and from the erroneous judgments that might be made by the teacher, there is the far greater danger that such a system of promotion would place a premium on the most superficial kind of teaching and learning. Since the

[1] *Survey of the Schools of Wilmington, Delaware*, p. 72. Bureau of Education Bulletin No. 2, 1921.

instructor and the pupil would know that ultimate success depends merely on doing the daily work passably well, there would be no incentive to connect or retain the various stages of the work. Thus both the practical and the theoretical aims of secondary education would be defeated. The practical purpose is to help the pupil to master his subjects sufficiently well to be able to use some of them, at least, in his daily pursuits. The theoretical purpose is to develop the habit of thoroughness and the ability to comprehend things in their totality. It should not be surprising that the correlations are low between intelligence as measured by standard mental tests and the scholarship of pupils as measured by such a method. The reason is that three variables instead of two are being correlated: intelligence, scholarship, and the subjective judgment of the teacher.

At the other extreme is the system of basing promotion on the classroom work plus a written final examination lasting from two to three hours, giving much more weight to the latter than to the former. Though this method may yield somewhat higher correlations between intelligence and scholarship in some subjects, it has its defects in that there is no way of discounting the cases of the pupils who fail in a two-hour written examination although they do fairly well in a forty-five minute verbal mental test. Also no account is taken of the pupils who are "tutored" just before the school examinations and thus receive better marks than one would expect from their intelligence quotients. Finally, no control is exercised over the pupils of fairly high mentality who do satisfactory work throughout the year and know that they need a mark of only twenty-five or thirty in the final examination in order to get a passing mark in the course.

The best method of grading scholarship in the high school would be to combine the average recitation mark with the final examination mark in such proportions that the final course mark should yield the highest possible correlation with the intelligence score. To accomplish this, it may be necessary, in the first place, to give a different weighting to the examination mark in different subjects. In one subject it may be necessary to count it one-half of the final mark; in another subject, one-third or one-fourth. Why should a written examination in shop work, let us say, have the same impor-

tance as a written examination in history or algebra? In the second place, more than usual care will have to be taken in the preparation of the examination paper in order to gradate it properly and make it sufficiently exhaustive.

In the third place, it should be laid down as a condition for promotion that, irrespective of what the examination mark may be, no pupil failing in the daily work can be promoted and, likewise, no one getting less than a fixed minimum in the final examination is entitled to promotion. These two provisions would eliminate the unnatural high examination mark due to "tutoring" and the equally unnatural low examination mark due to indifference rather than lack of ability.

That effort is independent of mental alertness and that the putting forth of maximum effort yields higher correlations between ability and scholastic achievement can be proved only indirectly. There is no method as yet for measuring application objectively. Nevertheless, high-school teachers are practically unanimous in their judgment that girls are more faithful and more conscientious in their work than boys. This fact can hardly be disputed. If the primary thesis is correct, therefore, then the correlation between either mental ability and scholarship or scholastic achievement in two related or unrelated subjects ought to be higher for girls than it is for boys.

In the report of the National Committee on Mathematical Requirements[1] there are six tables giving the correlations between various high-school subjects, such as first-year Latin and fourth-year Latin, algebra and geometry, English and algebra, etc., for boys and girls respectively. Each table gives the correlations obtained in a specific high school. In School A the girls yield eighteen correlations that are higher than the corresponding correlations for the boys, whereas the boys yield only seven correlations which exceed the corresponding correlations for the girls. In School B the ratio is fourteen to eight in favor of the girls; in School C, eleven to ten; in School D, twelve to twelve; and in School E, twelve to six in favor of the girls. Only in School F is there a distinct change of conditions, the ratio being three to fifteen in favor

[1] *The Reorganization of Mathematics in Secondary Education*, pp. 124–27. Mathematical Association of America, 1923.

of the boys. If we exclude School F, in which the conditions favoring the two sexes must differ radically from the normal, we find that out of a total of 110 paired correlations those yielded by the girls exceed the corresponding correlations yielded by the boys in sixty-seven cases. Since positive and high correlation coefficients depend on the uniform variation of paired traits in the same direction, the foregoing figures must result from the superior faithfulness and greater uniformity in effort on the part of the girls. We are justified in concluding, therefore, that low correlations between mental ability and scholastic achievement in a particular school do not disclose prognostic unreliability on the part of the tests but rather a great deal of erraticism in the matter of application to studies.

Since it is equally possible that erratic teaching and erratic marking may also yield low correlations, this article concerns itself with the effort to determine whether the pupil's scholastic attainment should be measured by his recitation mark, by his final examination mark, or by a combination of both in some definite ratio. The method chosen, as has been said, should be the one that yields the highest correlation with intelligence.

With this end in view, the correlations between intelligence and achievement in ten first-year high-school subjects have been determined. The correlations between recitation marks and examination marks in the same subjects were also obtained in order to see how much more reliable are the judgments of teachers, rendered daily throughout the entire term up to within a few days before the final examination, than those of the mental examiner, given months before the pupils begin their studies. Table I gives the various correlations obtained by the Pearson formula. The intelligence test employed was a modified form of the Army Alpha, especially adapted by the writer for high-school pupils.

It will be seen that the correlations between intelligence and scholarship based on examination marks are, with a few exceptions, considerably higher than the correlations between intelligence and scholarship on the basis of the recitation marks. One of these exceptions, algebra, is readily explained by the fact that the recitation marks are based on uniform weekly tests given in the classroom. In this subject there is not much difference between the two methods

of measuring the pupil's attainment. Barring algebra, there are only three cases—general science, ancient history, and domestic science—in which the recitation marks yield a slightly higher correlation than do the examination marks. Discounting these three exceptions, it seems evident from the figures in Table I that the degree of correlation between intelligence and scholarship is considerably influenced by the method of measuring scholarship. The average of all of the correlations between intelligence and achievement as measured by the final examination is 26 per cent higher than the average correlation between intelligence and achievement as measured by the daily recitation marks.

TABLE I

CORRELATION BETWEEN INTELLIGENCE AND ACHIEVEMENT IN TEN HIGH-SCHOOL SUBJECTS

SUBJECT	NUMBER OF CASES	CORRELATION			P. E.		
		Intelligence and Recitation Marks	Intelligence and Examination Marks	Recitation Marks and Examination Marks	Intelligence and Recitation Marks	Intelligence and Examination Marks	Recitation Marks and Examination Marks
Algebra 1	160	.573	.538	.800	.036	.038	.019
General science 1	75	.536	.497	.759	.056	.059	.033
Ancient history 1	121	.420	.413	.646	.050	.051	.036
English 1	199	.289	.442	.675	.044	.038	.026
Latin 1	120	.305	.384	.824	.056	.052	.020
French 1	116	.268	.425	.804	.058	.051	.022
Bookkeeping 1	170	.328	.379	.602	.046	.044	.033
Domestic science 1	28	.279	.256	.711	.117	.119	.063
Shop work 1	68	.223	.536	.256	.078	.055	.076
Mechanical drawing 1	95	.270	.523	.303	.064	.050	.063
Average	.....	.349	.439	.638	.....	.....	.....

The next question that arises is, What happens when we combine the examination mark and the recitation mark in certain proportions in order to get the final or passing mark in a subject? Most schools resort to this method, and they count the examination one-fourth, one-third, one-half, or two-thirds of the final mark. It is doubtful, however, whether the desire to obtain the combination that would yield the highest correlation with mental ability has ever been the guiding principle in this procedure. Usually, it has been the desire to counteract either the effects of examinations that are

too severe—in which case the examination mark would count less than the recitation mark—or careless grading in the daily work—in which case more weight would be given to the examination mark.

It would have been ideal if the cases treated in Table I could have been used in their entirety in making up the various combinations presented in Table II. But pressing matters forced a long suspension in this investigation, and, when the work was finally resumed, the writer had to content himself with employing only fifty cases in working out each of the correlations. Table II gives the correlations between intelligence and scholastic achievement in four first-year high-school subjects as measured by (1) the recitation mark alone, (2) the examination mark alone, (3) one-half of the examination mark plus one-half of the recitation mark; (4) one-third of the examination mark plus two-thirds of the recitation mark, and (5) one-fourth of the examination mark plus three-fourths of the recitation mark.

TABLE II

CORRELATIONS BETWEEN INTELLIGENCE AND SCHOLARSHIP DIFFERENTLY WEIGHTED (50 CASES)

	Intelligence and Achievement in History	Intelligence and Achievement in English	Intelligence and Achievement in Latin	Intelligence and Achievement in Algebra
Recitation only	.352±.083	.609±.061	.478±.074	.160±.093
Examination only	.427±.078	.494±.072	.435±.078	.192±.092
½ examination plus ½ recitation	.452±.076	.624±.058	.422±.079	.237±.090
⅓ examination plus ⅔ recitation	.441±.077	.656±.054	.435±.078	.257±.088
¼ examination plus ¾ recitation	.352±.083	.703±.049	.470±.074	.314±.085

We find in Table II considerable difference in the degree of correlation, depending on how scholarship is measured. In history, apparently the best results are obtained by combining the examination and the recitation marks in a one to one ratio. In Latin, if final examinations have to be given in the school system, the best results are obtained by combining the examination and the recitation marks in a ratio of one to three. The same is true for English and algebra. These statements are by no means final. In fact, this investigation is not meant to establish any one theory

or practice in the matter of grading scholarship in the high school. Its main purpose is merely to suggest the advisability of undertaking an extensive investigation that will give to high-school educators a definite method of grading achievement.

Nevertheless, the figures justify at least the following tentative conclusions: (1) the final examination in a subject affords the pupil greater opportunity to show his real attainment in scholarship; (2) it affords the school a more accurate method of making a just evaluation of the pupil's achievement, an evaluation which harmonizes more closely with his real ability, an evaluation which he cannot claim does him any injustice; (3) the correlations between intelligence and recitation marks are lower than those between intelligence and examination marks because the subjective judgment of the teachers plays a much larger rôle in the former than in the latter; (4) a low correlation between the results of a standardized intelligence test and school achievement, no matter how measured, is no more damaging to the former than it is to the latter; (5) different subjects may require different combinations of examination and recitation marks in order to do the greatest justice to the pupil; (6) the indications are that the best combination is obtained by taking one-fourth of the examination mark plus three-fourths of the recitation mark.

While eight of the correlations between the recitation and the examination marks, as shown in Table I, are high, the fact that the average of these eight correlations is only .73 should serve as conclusive evidence of the necessity of checking up the teacher's opinion of the pupil's attainment by a more objective method. This, together with the fact that the average correlation between intelligence and the examination marks is higher than the average correlation between intelligence and the recitation marks, shows that the final examination in a subject functions as the best objective method of checking the teacher's judgment under the present conditions. Moreover, five of the coefficients of correlation between the recitation and the examination marks show that the teacher's judgment concerning the pupil's attainment is not much more reliable than the predictions which can be made by intelligence tests when they are still more perfected.

It seems that the best way to achieve that perfection is to increase both the length and the verbal content of the mental test.[1] The higher up one goes in the grades, the more necessary it becomes to increase these two factors. The following figures give Terman's estimates of the length of tests for different age groups: 6 to 8 years of age, test 30 to 40 minutes in length; 9 to 12 years, 40 to 50 minutes; 13 to 15 years, 50 to 60 minutes; high-school students and adults, 60 to 90 minutes.[2]

The most discouraging feature about the correlation between intelligence and school attainment, however, is not the apparent smallness of the coefficient of correlation but the variations in the degree of correlation obtained at different times for the same subject and even in the same school. Thus, in Table I, the two correlations for algebra are .573 and .538; in Table II the corresponding correlations are .160 and .192. It is true that in the former case 160 marks were considered, whereas in the latter case only fifty paired items were treated; and it may possibly be that most of these fifty individuals were erratic and temperamentally peculiar. But how shall we explain the fact that the correlation between achievement in English as measured by the recitation marks and intelligence in Table II, yielded by only fifty cases, is much higher than the corresponding correlation in Table I, where 199 cases were treated?

Of course, the readiest explanation which presents itself is that these variations are due to differences in application and effort on the part of the various groups of pupils. It is quite possible, however, that they are due also to the method of measuring scholarship. In the first place, seldom, if ever, is the subject examination made as exhaustive as a mental test. Mental tests are usually made up in such a manner that not one individual in ten thousand can get a perfect score. In a school examination, on the contrary, it is perfectly possible for any number of pupils to get a perfect mark, and there is no telling whether some of these pupils could not

[1] Arthur I. Gates, "The Correlations of Achievements in School Subjects with Intelligence Tests and Other Variable Factors," *Journal of Educational Psychology*, XIII (May, 1922), 282.

[2] Lewis M. Terman, *Measurement of Intelligence*, p. 127. Boston: Houghton Mifflin Co., 1916.

have made a higher grade if more material had appeared on the examination paper. On the other hand, a school examination may be made so difficult that a large number of the pupils taking it will get a mark of zero, whereas no normal individual ever fails to score on a mental test. In brief, seldom is a school examination made up in such a manner as to enable the least prepared individual to get some kind of a mark on it and at the same time to afford the best prepared person an opportunity to get the highest possible mark in the time allowed.

Another difficulty with the average high-school examination is that it is not always properly graded. The questions do not dovetail into one another in the matter of difficulty as do the items of an intelligence test. This is demonstrated by the fact that the deviations in scholarship, measured by either the examination mark or the recitation mark, are considerably larger than those in intelligence, as shown in Table III. With two exceptions, the deviations

TABLE III

DEVIATIONS IN INTELLIGENCE AND SCHOLARSHIP

SUBJECT	NUMBER OF CASES	INTELLIGENCE		EXAMINATION MARKS		RECITATION MARKS	
		Average	Average Deviation	Average	Average Deviation	Average	Average Deviation
Algebra	693	55	1.5	54	7.6	67	6.8
English	611	54	1.4	54	3.5	62	3.4
Latin	241	60	2.0	45	8.6	62	2.3
French	244	52	0.7	45	1.4	69	2.2
History	253	58	1.1	50	6.4	69	4.7
Bookkeeping	250	52	1.5	64	4.4	72	2.4
General science	138	55	1.6	50	2.8	58	3.0

from the average examination marks are greater than the deviations from the average recitation marks. This, too, points to the fact that the questions which appear on the typical high-school examination paper are not carefully graded in the matter of difficulty.

Proper pedagogy requires that the easiest question should come first and the most difficult question last on an examination paper. Of course, there are some subjects in which it is almost impossible to grade the questions with any degree of nicety. In mathematics

it may be an easy matter, but in a language or history examination it cannot be done readily. Nevertheless, this state of affairs simply demonstrates that there is need here for extensive research. It may be that this problem can be solved by standard achievement tests devised for high-school subjects. But not until correlations are worked out between school examinations and achievement tests in each school system and not until these correlations are very high —at least .9—will either school administrators or members of high-school faculties be persuaded to let such an impersonal thing as a standard achievement test take the place of their own "carefully" devised examinations.

Some of the correlations in Table I reveal interesting features about high-school subjects. First, it will be noticed that achievement in algebra, general science, history, and English taken as a group yields the highest correlations with intelligence. From this we are led to conclude that these four subjects, at least in their elementary stages, require the type of intelligence which is measured by verbal tests more than some of the other subjects. Second, the somewhat lower correlations for Latin and French are doubtless due to the fact that in their elementary stages these subjects require the exercise of memory rather than general abstract intelligence. Third, the comparatively low correlations for freshman bookkeeping are due to the fact that the achievement scores take into consideration penmanship, both in the daily work and in the final examination, and penmanship has nothing to do with abstract intelligence. Finally, the low correlations between intelligence and practical achievement in domestic science, shop work, and mechanical drawing show what has been found by several other investigators, namely, that general intelligence does not go with manual skill. Bird and Pechstein[1] obtained a correlation of only +.140 for intelligence and skill in shop work. Glenn[2] obtained correlations of +.31 and +.24 for domestic science and +.30 for shop work.

[1] Verne A. Bird and L. A. Pechstein, "General Intelligence, Machine Shop Work, and Educational Guidance in the Junior High School," *School Review*, XXIX (December, 1921), 782–86.

[2] Irene Glenn, "A Report on the Correlation of Psychological Tests with Academic and Manual Subjects," *Journal of Educational Psychology*, XIII (November, 1922), 496–500.

Finally, the army psychologists found that, in a group of graphotype operators in the Treasury Department, the correlation between Army Alpha and accuracy was +.019 and between Alpha and output, −.087.[1] In view of the fact that the correlations between intelligence and manual skill obtained by different investigators and under different conditions are low, it would seem that in high-school procedure pupils of high abstract intelligence should be discouraged from pursuing manual courses, inasmuch as they are just as likely to do poorly in them as pupils of low mentality. On the other hand, the fairly high correlations between intelligence and the book subjects suggest, of course, that pupils of low mental ability should be discouraged from pursuing these subjects exclusively.

The correlations between the recitation marks and the examination marks are, with two exceptions, higher than the correlations between intelligence and the examination marks. This is what we should expect. It would be strange, indeed, if the judgments of the teachers, rendered every day up to the time when the pupils are finally examined, were to vary to a greater extent from the final judgments of the same teachers passed on the pupils in the written tests. Moreover, it should be borne in mind that the final subject examinations require much more elaborate and expensive preparations and methods of administration than intelligence tests. Considering the time consumed by school examinations, the expense of printing the papers, reading the answers, and recording the marks, such examinations cost about $1.25 for each subject taken by a pupil or about $5.00 each year for the four subjects carried. If we compare with this the cost of an intelligence test, which varies from 25 cents to 50 cents per pupil, including the salary of the director of tests, we are left with but little doubt that the further perfection of psychological tests, their increase in length, and their repetition would yield considerably higher prognostic results.

[1] *Memoirs of the National Academy of Sciences*, XV, 837.

Educational Writings

REVIEWS AND BOOK NOTES

Curriculum reconstruction.—Professor Bobbitt's latest book[1] represents thinking and work in education so advanced and sound that, if the phrase were not hackneyed, it would deserve to be called "epoch-making." It is hardly a book, however, for teachers or administrators waiting for settled formulas and finished prescriptions ready for immediate application. It is a very important book for teachers and other educators interested in the reconstruction of curriculums and willing to co-operate in discovering means and methods in the formulation of objectives more realistic and functional than those now provided by custom and empirical insight.

How to Make a Curriculum contains in brief compass formulations of the guiding principles approved by the author. Much of the remainder of the book is given to analyses of specific objectives; the general divisions—on the basis of subject-matter or otherwise—will be familiar to curriculum-makers. These objectives are almost invariably formulated in terms of the actual activities of mankind rather than in terms of masteries of traditional school subject-matter: "the disposition of the citizen as consumer to avoid waste"; "ability, habit, and disposition to follow the leadership of the world's Men of Vision"; "ability to care for the eyes," and some hundreds of others. In the formulation of guiding principles, objectives, and proposed activities as means, Professor Bobbitt has assembled and used the judgments of some fifteen hundred graduate students in the University of Chicago and of several hundred high-school teachers in Los Angeles. The formulations thus crystallized are, therefore, far from expressing the reactions of only one man.

Some of the basic principles or doubts reached by this method are of great present-day importance. "Education exists on two levels: the foundational and the functional." English literature and the English language are intentionally and conspicuously divorced, as they certainly should be. "Vocational education should be specific. It should be intensive and thorough." "The writer is much embarrassed in attempting to present even an illustrative list of tentative objectives for foreign language [studies] as extras." "It is uncertain how far women should go in performing home occupations and in what degree they should turn them over to specialized industries." "In locating

[1] Franklin Bobbitt, *How to Make a Curriculum.* Boston: Houghton Mifflin Co., 1924. Pp. 292. $1.80.

the objectives that require special emphasis, especially in general education, the diagnostic method of discovering the personal and social shortcomings to be overcome is most fruitful." "The comprehensive list of abilities [taken as sources of school objectives] should be determined wholly without reference to subjects or departments."

Every reader will, of course, discover in a book with such a wide range several pet antipathies. The present reviewer is angered by the basic definition of education: "Education is the process of growing up in the right way." Why do such violence to an established historic term? By that use most of the pine trees in our forest are "well educated." So were large proportions of the pre-Columbian savages.

Again: "[The term] *general education* [signifies] non-specialized education or the common element in the training of all persons." But, it is submitted that large portions of cultural education and, the reviewer is convinced, of civic education as well, will be found of profit only to those of superior abilities or special opportunities. These will be specialized, though not vocational, forms of education.

The book is a report of progress "in laying out general educational routes." to use the author's suggestive comparison. The reviewer sees it as analogous to a text on "qualitative" chemistry. To get commercially valuable results we need quantitative as well as qualitative analyses. Dr. Bobbitt is clearly right in holding that if "the short steps of progress are to be in the right directions, it is indispensable that one have the long view of the long journey."

DAVID SNEDDEN

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A realistic comedy as a textbook in French.—The comedy, *Blanchette*,[1] by Eugène Brieux as a text for advanced high-school or college French is, in a measure, a welcome innovation. As material for use in American classrooms, the "polite" comedy and the equally "polite" type of French fiction have, in general, enjoyed marked predominance from the beginning. Such editions are abundant; those hardy perennials, *Le Gendre de Monsieur Poirier* and *L'Abbé Constantin*, are typical. It would not be surprising if a student, after two or three years of contact with such texts, should conclude that the French nation must be made up largely of people of title, the landed gentry, beaming curés, and flunkeys. Until recently, popular classroom texts dealing with what are generally called "the masses"—such works as George Sand's *La Mare au Diable* and Daudet's *La Belle-Nivernaise*—have had, in general, a romantic or idyllic quality which has been at once very charming and more or less misleading. Except for a flash now and then in the carefully edited tales of Maupassant, Coppée, and Daudet, there has been little in our classroom literature so far to

[1] Eugène Brieux, *Blanchette*. Edited by Hugh A. Smith and Helen M. Langer. Boston: D. C. Heath & Co., 1924. Pp. xxii+104.

indicate very clearly the existence of that great mass of very plain and very human folk in town and country which, despite so many shortcomings, Laurence Jerrold in his too-little-known volume, *France, Her People and Her Spirit*, rightly extols as the sound, dependable backbone of the French race.

Blanchette, then, will prove an adventure to more than one student and very likely an adventure that will do him good. The play, like the other plays of the same author, is at once a social study and a very human document. It has a stimulating appeal, and the interest holds to the last scene. The editors have added some very illuminating notes; it is to be regretted, perhaps, that they did not supply a vocabulary as well. The publishers are to be congratulated for this contribution of fresh and vital material to aid the American student in his understanding of French society as a whole.

DURBIN ROWLAND

Project teaching in general science.—For the past few years the literature of science teaching has been particularly full of the value of project teaching in science. As is usually the case with movements of this sort, there have been a great many claims as to its value, but very little experimentation has been carried on to test the merits of the claims. The need for supporting evidence has been recognized in a study[1] which presents the results of an investigation to determine the relative value of project teaching and the traditional textbook method.

In his discussion of the project method, the author has summarized the recent literature on the subject and has worked out a very definite statement of the aims and activities involved in project work. The study is divided into the following parts: (1) background for the experimental evaluation of project teaching in general science, (2) description of the experiment in general science carried on in the University High School, University of Missouri, (3) methods used in checking the results of project teaching in general science, (4) comparative results of project teaching and the traditional types of teaching in general science, and (5) the conclusions and implications which may be drawn from the study.

The study will be of interest to any teacher of science. The list of projects, the types of activities involved in different kinds of projects, and the suggestions for carrying on project work constitute a very valuable addition to our present methods. The results obtained in the experiment, which attempts to measure the value of project teaching as compared with textbook teaching, do not warrant broad generalizations. The pupils who engaged in projects were given very carefully worked out directions for following through their problems, while no such directions were given to the other group. This would introduce a variable which would more than account for the gain made by the class doing project work. If the same careful directions had been given the class which

[1] Ralph Knupp Watkins, *The Technique and Value of Project Teaching in General Science*. Columbia, Missouri: Missouri Book Co., 1923. Pp. 100.

followed the textbook, the results obtained might have been different. It would be interesting to carry this experiment further by comparing a class doing project work such as is outlined in this study with a class following a well organized book in general science with study helps as carefully worked out as were those given to the class carrying on projects. The results secured from such a study, supplementing those already obtained, would furnish a basis for sound conclusions.

WILBUR L. BEAUCHAMP

Some encouragement for the modern teacher.—There are still some people who are votaries of the unfortunate misconception that modern methods of education are either fads or intolerable mistakes and that the only solution of our educational problems is a return to the good old days of the "little red schoolhouse." Undoubtedly, some ardent proponents of the modern point of view in education have longed for a factual refutation of this musty fallacy. The material for such a rebuttal has recently appeared under the joint authorship of O. W. Caldwell and S. A. Courtis.[1]

In 1845 a survey was made of the Boston schools, a survey so objective in nature and so suggestive of modern educational technique that on the basis of factual evidence valid comparisons can be made between the educational situation in Boston at that time and the educational situation of the present day. By quoting liberally from the survey report, the authors have presented an absorbing account of the beginnings of the objective evaluation of instruction and the conditions which the application of that technique revealed in the Boston schools of 1845.

In chapters i and ii the authors give a brief historical sketch of the difficulties which Horace Mann encountered in his efforts to break down the disastrous educational practices so strongly intrenched at that time. The survey was remarkably prophetic of modern procedures. One finds in chapters iii, iv, and v some startling, but amusing, information. The data indicating the performance of the Boston school children in what corresponded to the modern eighth grade were very keenly disappointing and caused honest chagrin on the part of the survey committee.

The records show many subjects not included in the modern elementary-school curriculum; however, there are some questions in the Boston survey which indicate a content very similar to that taught today. The semblance was sufficient to permit the modification of some of the questions of the original survey for use in our present-day schools. Accordingly, the authors selected thirty questions, five from each of the following subjects: history, geography, arithmetic, grammar, reading (definition of words), and natural philosophy. They devised a scoring technique similar to that employed by the Boston survey committee. In 1919 the questions, with directions for their administration

[1] Otis W. Caldwell and Stuart A. Courtis, *Then and Now in Education: 1845–1923*. Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. x+400.

and scoring, were sent to schools in all parts of the country. Tabulations of the answers of about 12,000 eighth-grade pupils were made.

The results show that the errors and successes of the school children of today are very much like those of the children attending the Boston schools in 1845; in some cases the latter group scored higher. However, in view of the conditions under which both sets of tests were given, the gross conclusion is that the results favor the children taking the tests in 1919. It is further significant that the greatest superiority is shown in the type of question requiring thought as opposed to the type involving only memory.

After presenting these data, the authors, by way of extended contrast, describe the Detroit public school system as an example of the finest educational practice in modern times. Inspired by the perspective lent by the comparison of such a splendid school system with the type of school system existing in 1845, the authors venture to predict the progress of the school of the future.

One-half of the book is devoted to appendixes containing some of the reports of the Boston school committee made in 1845, sample pages from some of the texts in common use at that time, and the data secured from the administration of the questions to the children of the modern schools. Thus, anyone wishing to examine in detail the validity of the authors' findings has convenient access to the original data.

The book should give encouragement to the modern teacher by showing the progress made in education since 1845. At the same time, by vividly projecting the future, the danger of smug complacency with things as they are is avoided. The book furnishes inspiration of the right kind—the kind that is based on facts, the kind that gives a genuine basis for faith in the promise of the future. It should be read not only by technically trained educators but by all civic-minded persons who are interested in educational progress. If properly received, it should do much to dispel the fog of ignorance and the senseless prattle about the "good old days."

HOWARD Y. MCCLUSKY

Talks to young people about character development.—For a number of years there has been an increasing tendency on the part of parents to lessen the responsibility placed on their children. When living conditions were simpler, each member of the household was usually assigned certain tasks and duties to perform, which unquestionably gave a sense of responsibility and aided in the development of character. However, the growing complexity of society, the practice of dwelling in city apartment houses, and the specialization of industry have left few of the former home activities. As a result, there exists at the present time a lack of stability among children which many writers deplore. The school as well as the home is criticized for the failure to offset, through training, the loss to the children from changed social conditions. It is claimed by some that the widely advocated doctrine of interest which dominates our edu-

cational theory and practice today neither fits the individual for the hard realities of life nor stiffens his moral fiber.

A new book[1] addresses twenty chapters to young people on the development of backbone or character. There is neither Preface nor Introduction, but the third chapter contains a statement which seems to express very well the spirit of the volume.

> If any reader wonders, moreover, what these papers are—whether they are talks or essays or sermons, whether they are secular or religious—I reply that I never know where confidential friendly advice leaves off and where a sermon begins, because I do not recognize any line between. I am simply concerned with the application of the truth to life—religion is the truth lived by persons—and I insist that there should be no distinction between the secular and the religious. When we speak of God, we should not deepen our tones or complicate our vocabulary. It is all one, this life of ours [p. 25].

An opening chapter emphasizes the plastic period between ten and twenty years of age as an opportune time for character development. Growth in character is to come through spiritual development and hard work. Young people should be neither egotistic nor oversensitive. The spirit of the soldier is as necessary in solving the problems of peace as in winning battles. The author cautions youth about acquiring faddish habits with respect to food. Students who are learning to speak in public should keep in mind three rules—never begin with an excuse; avoid opening with a story; and stop at the proper time. Sunday is to be observed in a manner most suitable for relaxation, recreation, and spiritual and moral development. One chapter points out how certain proverbs in general use are very misleading when taken in a literal sense. The spirit of co-operation and brotherliness is essential in school life. A matter of great importance to young people is to know when to talk and when to keep silent. The educated youth are indebted to society for good homes and schools and must serve humanity in return for the privileges received. The ages of fourteen, seventeen, and twenty-one are designated as the periods for emphasis on school, responsibility, and mankind, respectively. Independence, competence, and self-reliance are essential elements of a properly developed character. Physical and mental fitness and a keen interest in the well-being of the community are important factors in the training of the young. One of the later chapters points out to students away from home the need for writing to their parents at regular intervals.

The author speaks to boys and girls in a sympathetic and understanding manner. Parents and teachers should find the series of twenty talks an aid in meeting problems of character development. The language is such as to be readily understood by all. The book should make a decidedly popular appeal.

CARTER V. GOOD

[1] Samuel S. Drury, *Backbone: The Development of Character*. New York: Macmillan Co., 1923. Pp. viii+216. $1.50.

A brief introduction in Spanish to the history of Spain.—Something over thirty of the 211 pages of reading material in M. Romera-Navarro's *Historia de España*[1] are devoted to *cuestionarios* and *sumarios* and approximately as many more to maps and illustrations. A proportionately large amount of space is given to the history of art and science and to the record of varied commercial, industrial, and other data bearing on social conditions in general. A welcome feature is the presentation of a number of the important legends of Spain. It is immediately apparent, therefore, that there can be crowded within the limits chosen nothing more than an introduction to the history of Spain, that we can have in no adequate sense a history of Spain. Thus the three centuries of the *Reconquista*, following the death of El Cid, are passed over in silence. The allusions to the Inquisition are so hazy as to be barely recognizable. Within the body of the text there is no mention of Ignatius Loyola nor of Cortés or Pizarro. Santa Teresa, of whom Fitzmaurice Kelly, the distinguished historian of Spanish literature says, "She ranks as a miracle of genius, as, perhaps, the greatest woman who ever handled pen," receives no notice. The services of Wellington and the English troops in the war against Napoleon are recorded in one brief sentence. Despite these limitations, there is ample material to supply an exceedingly useful background for the study of the Spanish language, literature, and art. The book will prove a revelation of a very great national past to the young student and will frequently amaze him by its vivid presentation of the strong and often noble qualities that have been manifested in the deeds of the sons of Spain. El Cid, Lazarillo de Tormes, and Don Quixote are made veritable flesh and blood. The student learns what are *gongarismo*, *conceptismo*, *estilo plateresco*, and *estilo churrigueresco*. He receives a definite and true notion of the life and significance of Cervantes, Lope de Vega, Calderón, Tirso de Molina, and Gongora and some conception of the life and work of the more important men of letters and the other arts as well to the very present.

The point of view is Spanish. To many Spaniards, it would seem that America means to the author largely Spanish America. He quotes with apparent unqualified approval an extravagant statement from the Spanish translation of Charles Fletcher Lummis' *The Spanish Pioneer* (p. 19), "One nation practically had the glory of discovering and exploring America, of changing the whole world's ideas of geography, and making over knowledge and business all to herself for a century and a half." We are very properly reminded that not to Columbus alone but in an important degree to Spain belongs the glory of the discovery of America. Charles V and Philip II appear as champions of a united christendom, as self-sacrificing, tireless, dauntless servants of their country. Lightly indeed does the author touch on the fanaticism of Philip II. In "Good Queen Bess" is seen only the violent and unscrupulous enemy of Spain. We are told that the verdict of history has absolved Spain of guilt in the matter of the blowing up of the Maine. Whether

[1] M. Romera-Navarro, *Historia de España*. Boston: D. C. Heath & Co., 1923. Pp. xii+302. $1.40.

or not this be regarded at this time as the verdict of history, many of us gladly incline to the opinion. If the student is to understand Spanish character and opinion, it will certainly be profitable for him to learn how Spaniards feel about their contacts and conflicts with Anglo-Saxon peoples.

The portrayal is vivid, frequently fascinating, and always stimulative of interest in further study of the subject. The sentence structure is readily comprehensible, although the author does not sacrifice thought to lucidity. We have real, not modified, Spanish.

The *sumarios* and *cuestionarios* at the end of each chapter can be profitably employed in simple conversation. The notes, averaging one to something less than two pages, are generally concerned with the translation into English of some idiomatic or otherwise baffling expression. The occasional grammatical notes are usually helpful; there is a welcome absence of cumbering philological lore. Names, when the comment is brief, are treated in the vocabulary. Not infrequently these might just as well be omitted. Few errors have been observed in the notes and very few omissions and no errors in the vocabulary. The book is well printed on good paper; the proof-reading is unusually good. Many of the illustrations are reproductions of old paintings, engravings, and wood cuts. Seldom does one find a textbook in which the illustrations so admirably embody the spirit of the text.

The Preface indicates that the book is intended for the second year of the university, which means the third or fourth year of the high-school course. It can, however, be used to advantage in the latter part of the first year of the university course. The use of this text will aid materially in clarifying and co-ordinating the Spanish instruction of the high school and college. It meets a keenly felt need and deserves and will assuredly receive a warm welcome.

JOHN C. RANSMEIER

Scientific studies of educational finance.—Until very recent years, little effort had been made by educators to study school financial matters. Budgets were seldom organized on any scientific basis. The costs of any particular part of the system or systems was a matter of conjecture except when attention was directed to the particular part by some unusual circumstances or by the questioning of some patron. Unit costs, clock hours, per capita costs, and similar terms were as yet unused in the field of education.

Various studies of financial problems have been undertaken in the past few years. Such studies have almost invariably been limited to local school situations and to particular phases of the local situation. The most extensive investigation of school finance which has yet been undertaken is to be presented by the Educational Finance Inquiry Commission in a series of thirteen volumes.

The first volume[1] deals with an investigation of the financial status of the state of New York. Cost figures for 1922 are exhibited and compared with similar figures from 1910 through 1921. Current costs are shown for public

[1] George D. Strayer and Robert Murray Haig, *The Financing of Education in the State of New York*. New York: Macmillan Co., 1923. Pp. xiv+206.

elementary schools, public high schools, special types of schools, and various high-school subjects. Items of plant investment, including debt, interest, cost, the ability of the state to maintain school plants, and the adequacy of the school plant, are exhibited. Sources of revenue are discussed. It develops that 99 per cent of all revenue is from taxation. Approximately three-fourths of the revenue for the support of local schools is obtained from local taxes. Tax-law revision is not so imperative in New York as in many states, but certain changes need to be made.

The total current expenses and plant costs for public education in the state of New York in 1922 were $196,034,409. The expenditures, according to the investigators, will probably increase to $226,400,000 by the year 1930.

School administrators can well afford to become acquainted with this publication. The salary-ratio formula, which the commission developed as a means of calculating the distribution of current expenses, is in itself a no mean achievement. Likewise, the determination of the formula for the index of economic resources is deserving of commendation. The authors are to be congratulated in that they have produced a statistical study which is readable by those with little statistical training as well as by statistical experts. The language used and the tables exhibited are within the grasp of the educational layman. The graphs are simple and not too numerous. The fact that a summary has been placed at the first of the volume makes the findings readily available to the reader. Six major recommendations of desirable modifications in the educational system of New York are made: "(1) the attainment of larger units of school administration and support, (2) the establishment of better budgetary procedure and accounting for school systems, (3) the establishment of better methods of financing plant outlays, (4) better provision for fire prevention and for insurance of school buildings, (5) codification of the educational law, (6) determination of the relative advantage of fiscally independent and fiscally dependent school boards" (p. 13).

Urgent requests from educators and laymen for "authoritative information on the cost of public education, so presented as to permit comparisons between the states," led to the compilation of the data published in Volume VI.[1] From the data submitted it is possible to determine the relative status of any state or group of states on such items as the percentage of all governmental expenditures devoted to education, highways, and other governmental purposes. Likewise, per capita costs for all governmental purposes and for education are exhibited for each state.

The rank of the states on the basis of per capita income is compared with the rank on the basis of expenditures for educational purposes. The distribution of costs of education between elementary and secondary schools and higher education is shown. It is to be regretted that elementary- and secondary-school costs are not reported separately, but doubtless the data would not yield to such treatment.

[1] Mabel Newcomer, *Financial Statistics of Public Education in the United States, 1910–1920*. New York: Macmillan Co., 1924. Pp. viii+188.

Capital outlay, interest, and current expenses are briefly discussed. It appears that interest charges have been mounting more rapidly than either of the two productive forms of expenditure. Sources of revenue for the various states are rather fully exhibited. We learn that communities have tended to go into debt more rapidly for schools than for other types of local endeavor. "In most states, it is possible for a debt to remain outstanding after the building for which it was issued has become obsolete or has been destroyed" (p. 81). The investigator declares that "the rapid increase of bond issues makes it increasingly important for the state to control local borrowing; and more careful limitation of the life of such bond issues and of the powers of refunding would seem desirable" (p. 81).

A very valuable part of the publication is the extensive appendixes (pp. 85–181). These include, among other items, statements as to the sources of material, tabulated data for each state on matters of governmental and educational finance, values of school property, income from permanent funds, summaries of sources of revenue for educational purposes, summaries of methods of apportioning state and county school funds, and fairly complete summaries of the limitations on the borrowing powers of schools in the several states.

The book should become a handbook on general school finance. The information is of great value to educators and laymen alike. It is of such a nature that its preparation would have been precluded except under such unusual opportunities for research as the author had at command. With this material available in its present form, there ceases to be any valid excuse for quibbling over the status of relative expenditures for education and other governmental activities in the several states. At last, the figures are available in usable form.

G. W. WILLETT

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A new approach to the teaching of agriculture.—In connection with the teaching of agriculture the project method has been almost universally adopted and approved as a workable plan. A textbook[1] which emphasizes the project arrangement of topics has just appeared.

This text includes a comprehensive and complete treatment of eighteen interesting projects. These projects are classified primarily as individual and group projects and secondarily as productive projects, trial projects, improvement projects, and management projects. A splendid suggestion has been made by the author as to how home projects may be pursued by students studying agriculture in school. In dealing with the projects, the author makes use of the topical method and arranges the topics in each chapter in the order of project sequence.

[1] Kary Cadmus Davis, *The New Agriculture for High Schools.* Philadelphia: J. B. Lippincott Co., 1923. Pp. iv+494. $1.80.

After a formidable first chapter on "The Business of Farming" and a second chapter on "Elementary Plant Growth and Physiology," twenty-eight chapters treat the principal phases of agriculture. Space does not permit the listing of all of the chapters, but they may be grouped as follows: "Soil Management and Improvement"; "Field Crops," including corn, small grains, sorghums and millets, grasses, alfalfa, clovers, animal legumes, potatoes, cotton, tobacco, and fruit; "Garden"; "Improvement of the Grounds and Buildings"; Woodland"; "Farm Animals," including swine, dairy beef, horses and mules, sheep, poultry, and bees; "Power and Shop."

Each chapter contains (1) text principles of science, (2) suggestions for projects, field work, and laboratory work, (3) questions and investigations, and (4) references.

The teachableness of the book is enhanced by an abundance of excellent illustrations, clear treatment, and careful and complete indexing. It is by far the most comprehensive text in agriculture that has appeared at the high-school level. The contents of the book, however, represent more work than can be completed in a year. It is a good senior high school text and can be used as a reference book by pupils in the eighth grade.

Having a wide and yet specific scope, the text will fill a twofold purpose in that it will not only inculcate a desire for the study of agriculture but also serve as a guide in an intelligent, scientific approach to the study of this vast and important field. The book is timely and will be welcomed by those who are interested in the teaching of agriculture.

O. D. FRANK

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